VersaMax I/O and Control

With its innovative modular architecture, VersaMax combines power and versatility to help provide performance in a compact and affordable control solution.

The VersaMax product family can be used as I/O, as a PLC, and as distributed control for up to 4096 I/O points. With its modular architecture, intuitive features, and unparalleled ease of use, it helps save machine builders and end users time and money.

VersaMax is the first GE Intelligent Platforms control product created using the unique Six Sigma design process. Six Sigma combines global research and development techniques, extensive customer needs analysis, and rigorous quality control standards.

The VersaMax I/O and Control product family features a broad selection of I/O modules, terminations, power supplies, and network interface options to enhance your control capability.

Proficy Machine Edition

Proficy Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.

Power Supplies pages 180-181

Analog I/O Modules pages 195-199

Discrete I/O Modules pages 182-194

Network Interface Modules page 205

CPUs page 174
Carriers pages 175-177
I/O Interposing Bases pages 178-179

Expansion Modules page 202
RTD and Thermocouple Modules page 200
Specialty Modules page 201
Remote I/O Units pages 203-204
Serial Communications page 206

Accessories page 207
Configuration Guidelines pages 208-209

Publication Reference Chart

GFK-1179	Installation Requirements for Conformance to Standards
GFK-1503	VersaMax PLC User's Manual
GFK-1504	VersaMax Modules, Power Supplies, and Carriers User's Manual
GFK-1533	VersaMax System DeviceNet Communications Modules User's Manual
GFK-1534	VersaMax System Profibus Network Modules User's Manual
GFK-1535	VersaMax System Genius Network Interface Unit User's Manual
GFK-1563	VersaMax I/O and Industrial Networking Application Guide
GFK-1697	VersaMax System AS-i Network Master Module User's Manual
GFK-1847	Remote I/O Manager User's Manual
GFK-1852	VersaMax Serial to Ethernet Adapter User's Manual
GFK-1860	VersaMax System Ethernet Network Interface Unit User's Manual
GFK-1868	Proficy Machine Edition Getting Started Guide
GFK-1876	VersaMax Ethernet Station Manager Manual
IC690CDU002	InfoLink for PLC CD-ROM

CPUs

VersaMax CPUs supply a number of features usually found only in PLCs with larger footprints, including up to 128K of memory for application programs, floating point math, and real-time clock. With a modular and scalable architecture, the VersaMax CPU is ideal for standalone control applications with up to 256 local I/O or expanded systems of up to 4,096 I/O points.

	IC200CPU001	IC200CPU002	IC200CPU005	IC200CPUE05
Product Name	**VersaMax PLC CPU 32K Configurable Memory, 2 Ports RS-232 and RS-485**	**VersaMax PLC CPU 42K Configurable Memory, 2 Ports RS-232 and RS-485**	**VersaMax PLC CPU 128K Configurable User Memory, 2 Ports RS-232 and RS-485**	**VersaMax PLC CPU 128K Configurable User Memory, 2 Ports RS-232 and RS-485, 10 MBIT Ethernet Port. Supports EGD and SRTP.**
I/O Discrete Points	2048 in, 2048 out	2048 in, 2048 out	2048 in, 2048 out	2048 in, 2048 out
I/O Analog Words	Configurable	Configurable	Configurable	Configurable
Registers	Configurable	Configurable	Configurable	Configurable
Discrete Internal Bits	1024 points	1024 points	1024 points	1024 points
Discrete Temporary Bits	256 points	256 points	256 points	256 points
Global Discrete Bits	1280 points	1280 points	1280 points	1280 points
Program Memory	Configurable	Configurable	Configurable	Configurable
Boolean Execution Speed	1.8 ms/K (typical)	1.8 ms/K (typical)	0.8 ms/K (typical)	0.8 ms/K (typical)
Floating Points	Yes	Yes	Yes	Yes
Override	Yes	Yes	Yes	Yes
Built-in Communications	SNP Slave, RTU Master and Slave, Serial I/O	SNP Slave, RTU Master and Slave, Serial I/O	SNP Slave, RTU Master and Slave, Serial I/O	10 MBIT Ethernet Port, Slave, RTU Master and Slave, Serial I/O
Type of Memory Storage	System flash, battery-backed RAM	System flash, battery-backed RAM	System flash, battery-backed RAM	System flash, battery-backed RAM
Battery-Backed Real-time Clock	Yes	Yes	Yes	Yes
5V Backplane Current Consumption (mA)	40 with no EZ Store attached; 140 when EZ Store attached	40 with no EZ Store attached; 140 when EZ Store attached	80 with no EZ Store attached; 180 when EZ Store attached	160 with no EZ Store attached; 260 when EZ Store attached
3.3V Backplane Current Consumption (mA)	100	100	290 (Requires a power supply with 3.3 VDC expanded)	650 (Requires a power supply with 3.3 VDC expanded)
Dimensions (W x H)	2.63" (66.8 mm) x 5.04" (128 mm)	2.63" (66.8 mm) x 5.04" (128 mm)	4.20" (106.7 mm) x 5.04" (128 mm)	4.95" (126 mm) x 5.04" (128 mm)

Carriers

VersaMax provides several types of snap-together I/O carriers and interposing terminals to provide maximum wiring flexibility, as well as module hot insertion and removal. VersaMax carriers support IEC box-style, spring-style, and barrier-style terminals and are also available as snap-on auxiliary terminal strips and interposing terminals that can be mounted separately and connected to a connector-style carrier by an I/O cable.

	IC200CHS022	IC200CHS025
Product Name	**VersaMax Compact I/O Carrier, Local Box Clamp Connection Style**	**VersaMax Compact I/O Carrier, Local Spring Clamp Connection Style**
Field Termination Type	Integrated	Integrated
Wiring Termination Style	Local Box	Local Spring
Orientation on Module on Base	Vertical	Vertical
Dimensions (W x H x D)	66.8 mm (2.63 in) x 163.5 mm (6.45 in) x 70 mm (2.75 in), not including the height of DIN Rail	66.8 mm (2.63 in) x 163.5 mm (6.45 in) x 70 mm (2.75 in), not including the height of DIN Rail
Cables	N/A	N/A

Carriers

VersaMax provides several types of snap-together I/O carriers and interposing terminals to provide maximum wiring flexibility, as well as module hot insertion and removal. VersaMax carriers support IEC box-style, spring-style, and barrier-style terminals and are also available as snap-on auxiliary terminal strips and interposing terminals that can be mounted separately and connected to a connector-style carrier by an I/O cable.

	IC200CHS001	IC200CHS002	IC200CHS005
Product Name	**VersaMax I/O Carrier, Local Barrier Style**	**VersaMax I/O Carrier, Local Box Style**	**VersaMax I/O Carrier, Local Spring Clamp Connection Style**
Field Termination Type	Integrated	Integrated	Integrated
Wiring Termination Style	Barrier	Box	Spring
Orientation on Module on Base	Horizontal	Horizontal	Horizontal
Dimensions (W x H x D)	110.5 mm (4.35 in) x 139.7 mm (5.5 in) x 70 mm (2.75 in), not including the height of DIN Rail	110.5 mm (4.35 in) x 139.7 mm (5.5 in) x 70 mm (2.75 in), not including the height of DIN Rail	110.5 mm (4.35 in) x 139.7 mm (5.5 in) x 70 mm (2.75 in), not including the height of DIN Rail
Cables	N/A	N/A	N/A

Carriers

VersaMax provides several types of snap-together I/O carriers and interposing terminals to provide maximum wiring flexibility, as well as module hot insertion and removal. VersaMax carriers support IEC box-style, spring-style, and barrier-style terminals and are also available as snap-on auxiliary terminal strips and interposing terminals that can be mounted separately and connected to a connector-style carrier by an I/O cable.

	IC200CHS003	IC200CHS011	IC200CHS012	IC200CHS014	IC200CHS015
Product Name	**VersaMax I/O Carrier, Connector Style. A connecting cable (IC200CBL1xxx) and interposing base (IC200CHS011, CHS012, CHS014, CHS015, IC200CHS1xx or IC200CHS2xx) are required. This carrier can be used with all VersaMax I/O modules EXCEPT the following, due to their high isolation requirements: IC200MDL144 Input 240 VAC 4 Point Isolated Module; IC200MDL244 Input 240 VAC 8 Point Isolated Module; IC200MDD850 Mixed 240 VAC Isolated 4 Point / Output Relay 2.0A Isolated 8 Point Module**	**VersaMax I/O Carrier, Interposing Barrier Style (Requires IC200CHS003 base and connecting cable IC200CBL1xxx)**	**VersaMax I/O Carrier, Interposing Box Style (Requires IC200CHS003 base and connecting cable IC200CBL1xxx)**	**VersaMax I/O Carrier, Interposing Box Thermocouple Compensation (Requires IC200CHS003 base and connecting cable IC200CBL1xxx)**	**VersaMax I/O Carrier, Interposing Spring Clamp (Requires IC200CHS003 base and connecting cable IC200CBL1xxx)**
Field Termination Type	Integrated	Non-Integrated	Non-Integrated	Integrated	Non-Integrated
Wiring Termination Style	Connector	Barrier	Box	Box-Thermocouple Compensation	Spring
Orientation on Module on Base	Vertical	N/A	N/A	N/A	N/A
Dimensions (W x H x D)	66.8 mm (2.63 in) x 133.4 mm (5.25 in) x 70 mm (2.75 in), not including the height of DIN Rail	110.5 mm (4.35 in) x 105.4 mm (2.63 in) x 70 mm (2.75 in), not including the height of DIN Rail	110.5 mm (4.35 in) x 105.4 mm (2.63 in) x 70 mm (2.75 in), not including the height of DIN Rail	110.5 mm (4.35 in) x 105.4 mm (2.63 in) x 70 mm (2.75 in), not including the height of DIN Rail	110.5 mm (4.35 in) x 105.4 mm (2.63in) x 70 mm (2.75 in), not including the height of DIN Rail
Cables	Requires a IC200CBL1xxx cable	Requires a IC200CBL1xxx cable	Requires a IC200CBL1xxx cable	Requires a IC200CBL1xxx cable	Requires a IC200CBL1xxx cable

I/O Interposing Bases

VersaMax I/O interposing disconnect bases enable the IC200CHS003 to connect to a wide range of termination bases. The Relay bases provide additional protection and higher amperage outputs. The Disconnect bases enables the user to easily disconnect signals, on a per point bases, from the I/O module.

	IC200CHS003	IC200CHS101	IC200CHS102	IC200CHS111
Product Name	**VersaMax I/O Carrier, Connector Style. A connecting cable (IC200CBL1xxx) and interposing base (IC200CHS011, CHS012, CHS014, CHS015, IC200CHS1xx or IC200CHS2xx) are required. This carrier can be used with all VersaMax I/O modules EXCEPT the following, due to their high isolation requirements: IC200MDL144 Input 240 VAC 4 Point Isolated Module; IC200MDL244 Input 240 VAC 8 Point Isolated Module; IC200MDD850 Mixed 240 VAC Isolated 4 Point / Output Relay 2.0A Isolated 8 Point Module**	**Input or Output Interposing Disconnect Style 16 Points. The base has an individual knife-switch disconnect for each signal and common terminal and its corresponding pin on the VersaMax cable connector. Requires IC200CHS003 and a connecting cable IC200CBL1xxx.**	**Expansion Input or Output Interposing Disconnect Style 16 Points. The base has an individual knife-switch disconnect for each signal and common terminal and its corresponding pin on the VersaMax cable connector. Requires a IC200CHS101 main base, can not be directly connected to IC200CHS003.**	**I/O Interposing Relay Base (replaceable relays), fused (8 amps, replaceable), 16 points. The relays on these interposing terminals are intended to be controlled with standard 24 VDC 0.5A VersaMax output modules (IC200MDL740 and IC200MDL750 using IC200CHS003 base and connected by IC200CBL1xxx).**
Field Termination Type	Integrated	Non-Integrated	Non-Integrated	Non-Integrated
Wiring Termination Style	Connector	Box	Box	Box
Removable Terminals Connectors	N/A	No	No	No
Input Voltage	N/A	All discrete modules supported except MDL144, 244, 331, 730 and MDD840, 843, 850.	All discrete modules supported except MDL144, 244, 331, 730 and MDD840, 843, 850.	24 VDC from MDL740 and MDL750
Output Voltage	N/A	All discrete modules supported except MDL144, 244, 331, 730 and MDD840, 843, 850.	All discrete modules supported except MDL144, 244, 331, 730 and MDD840, 843, 850.	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Load Current per Point	N/A	N/A	N/A	8.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC (Replaceable Fuse)
Protection	N/A	N/A	N/A	Replaceable Fuse
Points per Common	N/A	N/A	N/A	Isolated Per Point
Dimensions (W x H x D)	66.8 mm (2.63 in) x 133.4 mm (5.25 in) x 70 mm (2.75 in), not including the height of the DIN Rail	115 mm (4.5 in) x 126 mm (4.95 in) x 65 mm (2.6 in), not including the height of the DIN Rail	115 mm (4.5 in) x 126 mm (4.95 in) x 65 mm (2.6 in), not including the height of the DIN Rail	253.7 mm (9.9 in) x 126 mm (4.95 in) x 73 mm (2.8 in), not including the height of the DIN Rail
Cables	Requires a IC200CBL1xxx cable	Requires a IC200CBL1xxx cable	N/A	Requires a IC200CBL1xxx cable

I/O Interposing Bases

VersaMax I/O interposing disconnect bases enable the IC200CHS003 to connect to a wide range of termination bases. The Relay bases provide additional protection and higher amperage outputs. The Disconnect bases enables the user to easily disconnect signals, on a per point bases, from the I/O module.

	IC200CHS112	IC200CHS211	IC200CHS212
Product Name	**I/O Interposing Relay Base (replaceable relays), fused (8 amps, replaceable), 16 points. The relays on these interposing terminals are intended to be controlled with standard 24 VDC 0.5A VersaMax output modules (IC200MDL740 and IC200MDL750 using IC200CHS003 base and connected by IC200CBL1xxx). Expansion base.**	**I/O Interposing Relay Base (replaceable relays), fused (8 amps, replaceable), 16 points. Field terminals are removable. The relays on these interposing terminals are intended to be controlled with standard 24 VDC 0.5A VersaMax output modules (IC200MDL740 and IC200MDL750 using IC200CHS003 base and connected by IC200CBL1xxx).**	**I/O Interposing Relay Base (replaceable relays), fused (8 amps, replaceable), 16 points. Field terminals are removable. The relays on these interposing terminals are intended to be controlled with standard 24 VDC 0.5A VersaMax output modules (IC200MDL740 and IC200MDL750 using IC200CHS003 base and connected by IC200CBL1xxx). Expansion base.**
Field Termination Type	Non-Integrated	Non-Integrated	Non-Integrated
Connection Style	Box	Box	Box
Removable Terminals Connectors	No	Yes	Yes
Input Voltage	24 VDC from MDL740 and MDL750	24 VDC from MDL740 and MDL750	24 VDC from MDL740 and MDL750
Output Voltage	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Load Current per Point	8.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC (Replaceable Fuse)	8.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC (Replaceable Fuse)	8.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC (Replaceable Fuse)
Protection	Replaceable Fuse	Replaceable Fuse	Replaceable Fuse
Points per Common	Isolated Per Point	Isolated Per Point	Isolated Per Point
Dimensions (W x H x D)	253.7 mm (9.9 in) x 126 mm (4.95 in) x 73 mm (2.8 in), not including the height of the DIN Rail	253.7 mm (9.9 in) x 126 mm (4.95 in) x 73 mm (2.8 in), not including the height of the DIN Rail	253.7 mm (9.9 in) x 126 mm (4.95 in) x 73 mm (2.8 in), not including the height of the DIN Rail
Cables	N/A	Requires a IC200CBL1xxx cable	N/A

Power Supplies

VersaMax Power Supply modules snap onto any VersaMax CPU or Network Interface Unit or onto a power supply booster carrier. Each power supply can be used as the main power source for modules in the I/O station, or as a source of supplemental power for larger I/O applications.

	IC200PWR001	IC200PWR002	IC200PWR101	IC200PWR102
Product Name	**24 VDC Power Supply**	**24 VDC Power Supply with Expanded 3.3 V**	**120/240 VAC Power Supply**	**120/240 VAC Power Supply with Expanded 3.3 VDC**
Input Voltage	24 VDC	24 VDC	120/240 VAC	120/240 VAC
Output Voltage	5 VDC, 3.3 VDC	5 VDC, 3.3 VDC	5 VDC, 3.3 VDC	5 VDC, 3.3 VDC
Extended Power	No	Yes	No	Yes
Input Power	11 W	11 W	27 VA	27 VA
Holdup Time	10 ms	10 ms	20 ms	20 ms
Inrush Current	20 A @ 24 VDC; 25 A @ 30 VDC	20 A @ 24 VDC; 25 A @ 30 VDC	N/A	N/A
Protection	Short circuit, overload, reverse polarity	Short circuit, overload, reverse polarity	Short circuit, overload	Short circuit, overload
Total Output Current	1.5 A maximum	1.5 A maximum	1.5 A maximum	1.5 A maximum
3.3V Output Current	0.25 A maximum	1.0 A maximum	0.25 A maximum	1.0 A maximum
5V Output Current	1.5 A minus the 3.3V current used, maximum	1.5 A minus the 3.3V current used, maximum	1.5 A minus the 3.3V current used, maximum	1.5 A minus the 3.3V current used, maximum
Dimensions (W x H x D)	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN Rail	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN Rail	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN Rail	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN Rail

Power Supplies

VersaMax Power Supply modules snap onto any VersaMax CPU or Network Interface Unit or onto a power supply booster carrier. Each power supply can be used as the main power source for modules in the I/O station, or as a source of supplemental power for larger I/O applications.

	IC200PWR201	IC200PWR202	IC200PWB001
Product Name	**12 VDC Power Supply**	**12 VDC Power Supply with Expanded 3.3 VDC**	**VersaMax Power Supply Booster Carrier. Supplies power to all modules to the right of booster. Requires power supply.**
Input Voltage	9.6-15 VDC, 12 VDC nominal	9.6-15 VDC, 12 VDC nominal	N/A
Output Voltage	5 VDC, 3.3 VDC	5 VDC, 3.3 VDC	N/A
Extended Power	No	Yes	N/A
Input Power	11 W	11 W	N/A
Holdup Time	10 ms	10 ms	N/A
Inrush Current	25 A at 12 VDC; 30 A at 15 VDC	25 A at 12 VDC; 30 A at 15 VDC	N/A
Protection	Short circuit, overload, reverse polarity	Short circuit, overload, reverse polarity	N/A
Total Output Current	1.5 A maximum	1.5 A maximum	N/A
3.3 V Output Current	0.25 A maximum	1.0 A maximum	N/A
5V Output Current	1.5 A minus the 3.3 V current used, maximum	1.5 A minus the 3.3 V current used, maximum	N/A
Dimensions (W x H x D)	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN Rail	49 mm (1.93 in) x 133.4 mm (5.25 in) x 39 mm (1.54 in), not including the height of the carrier or the DIN Rail	66.8 mm (2.63 in) x 133.4 mm (5.25 in) x 70 mm (2.75 in), not including the height of DIN Rail

Discrete Mixed I/O Modules

Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Discrete input modules receive signals from input devices such as sensors, push-buttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Modules require a carrier base (IC200CHSxxx).

	IC200MDD840	IC200MDD842	IC200MDD843
Product Name	**VersaMax Discrete Mixed Modules, 24 VDC Pos Logic Input 20 points/Output Relay 2.0 A, 12 points**	**VersaMax Discrete Mixed Modules 24 VDC Pos Logic Input 16/Output 24 VDC 0.5 A with ESCP**	**VersaMax Discrete Mixed Modules 24 VDC Positive Logic Input 10/Output Relay 6**
Input Voltage	24 VDC	24 VDC	24 VDC
Output Voltage	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	24 VDC	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Number of Points	20 in/12 out	16 in/16 out	10 in/6 out
Channel to Channel Isolation	No	No	No
Load Current per Point	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC	0.5 A for 30 VDC	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC
Input and Output Response Time- On/Off(ms)	0.5 and 10	0.5 and 0.5	0.5 and 10
Protection	No internal fuses or snubbers	Short circuit protection, overcurrent protection, free-wheeling diodes	No internal fuses or snubbers
On State Current	2.0-5.5 mA	2.0-5.5 mA	2.0-5.5 mA
Off State Current	0-0.5 mA	0-0.5 mA	0-0.5 mA
External Power Supply	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	18-30 VDC, 24 VDC nominal	0-125 VDC, 5/24/125 VDC nominal, 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Input Impedance	10 kOhms maximum	10 kOhms maximum	10 kOhms maximum
Load Current	2.0 A for 5-265 VAC or 5-30 VDC, 0.2 A for 31-125 VDC	0.5 Amp at 30 VDC maximum (resistive); 2.0 Amps maximum for 100ms inrush	10mA per point minimum, 8.0A maximum per module; 2.0 Amps for 5 to 265 VAC maximum (resistive); 2.0 Amps for 5 to 30 VDC maximum (resistive); 0.2 Amp for 31 to 125 VDC maximum (resistive)
5V Backplane Current Consumption (mA)	375 maximum	100 maximum	190 maximum
LED Indicators	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Mixed I/O Modules

Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Discrete input modules receive signals from input devices such as sensors, push-buttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Modules require a carrier base (IC200CHSxxx).

	IC200MDD844	IC200MDD845	IC200MDD846
Product Name	**VersaMax Discrete Mixed Modules 24 VDC Positive Logic Input 16/Output 24 VDC 0.5 A 16 points**	**VersaMax Discrete Mixed Modules 24 VDC Positive Logic Input 16/Output Relay 2.0A Isolated 8 points**	**VersaMax Discrete Mixed Modules 120 VAC Input 8 points/Outpoints Relay 2.0A Isolated 8 points**
Input Voltage	24 VDC	24 VDC	120 VAC
Output Voltage	24 VDC	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Number of Points	16 in/16 out	16 in/8 out	8 in/8 out
Channel to Channel Isolation	No	Yes, outputs	Yes, outputs
Load Current per Point	0.5 A for 30 VDC	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC
Input and Output Response Time- On/Off(ms)	0.5 and 0.2 ON / 1.0 OFF	0.5 and 10	1 AC cycle minimum and 2 AC cycle (Hz dependent) maximum and 10.0 OFF
Protection	No internal fuses	No internal fuses or snubbers	No internal fuses or snubbers
On State Current	2.0-5.5 mA	2.0-5.5 mA	5 mA minimum
Off State Current	0-0.5 mA	0-0.5 mA	2.5 mA maximum
External Power Supply	18-30 VDC, 24 VDC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Input Impedance	10 kOhms maximum	10 kOhms maximum	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical
Load Current	0.5 Amp at 30 VDC maximum (resistive) 2.0 Amps maximum for 100ms inrush	10mA per point minimum 2.0A for 5 to 265 VAC maximum (resistive) 2.0A for 5 to 30 VDC maximum (resistive) 0.2A for 31 to 125 VDC maximum (resistive)	10mA per point minimum 2.0A for 5 to 265 VAC maximum (resistive) 2.0A for 5 to 30 VDC maximum (resistive) 0.2A for 31 to 125 VDC maximum (resistive)
5V Backplane Current Consumption (mA)	70 maximum	270 maximum	300 maximum
LED Indicators	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Mixed I/O Modules

Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Discrete input modules receive signals from input devices such as sensors, push-buttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Modules require a carrier base (IC200CHSxxx).

	IC200MDD847	IC200MDD848	IC200MDD849
Product Name	**VersaMax Discrete Mixed Modules 240 VAC Input 8 points/Output Relay 2.0A Isolated 8 points**	**VersaMax Discrete Mixed Modules 120 VAC Input 8 points/Output 120 VAC 0.5A Isolated 8 points**	**VersaMax Discrete Mixed Modules 120 VAC Input Isolated 8 points/Output Relay 2.0 A Isolated 8 points**
Input Voltage	240 VAC	120 VAC	0-132 VAC (47 to 63 Hz), 120 VAC nominal
Output Voltage	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	120 VAC	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Number of Points	8 in/8 out	8 in/8 out	8 in/8 out
Channel to Channel Isolation	Yes, outputs	Yes	Yes
Load Current per Point	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC	10 mA min, 0.5 A max, 5 A for 1 cycle (20 ms) max inrush	2.0 A
Input and Output Response Time- On/Off(ms)	1 AC cycle minimum and 2 AC cycle (Hz dependent) maximum and 10.0 OFF	1 cycle/2 cycle and <1/2 cycle/<1/2 cycle	1 cycle/2 cycle and 10/10
Protection	No internal fuses or snubbers	Snubber and MOVs (each output)	No internal fuses or snubbers
On State Current	4 mA minimum	5 mA minimum	5 mA minimum
Off State Current	1.5 mA maximum	2.5 mA maximum	2.5 mA maximum
External Power Supply	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	N/A
Input Impedance	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical
Load Current	10mA per point minimum 2.0 Amps for 5 to 265 VAC maximum (resistive) 2.0 Amps for 5 to 30 VDC maximum (resistive) 0.2 Amp for 31 to 125 VDC maximum (resistive)	10 mA minimum per point, 0.5 A maximum per point, 5.0 A for one cycle (20 ms) maximum inrush	10 mA per point minimum; 2.0 A for 5-265 VAC maximum (resistive); 2.0 A for 5-30 VDC maximum (resistive); 0.2 A for 31-125 VDC maximum (resistive)
5V Backplane Current Consumption (mA)	300 maximum	125 maximum	300 maximum
LED Indicators	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm 1.956 in), not including the height of (the carrier or the mating connectors

Discrete Mixed I/O Modules

Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Discrete input modules receive signals from input devices such as sensors, push-buttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Modules require a carrier base (IC200CHSxxx).

	IC200MDD850	IC200MDD851
Product Name	**VersaMax Discrete Mixed Modules 240 VAC Input Isolated 4 points/Output Relay 2.0 A Isolated 8 points**	**VersaMax Discrete Mixed Modules 5/12 VDC Input 16 points/Output 12/24 VDC 16 points**
Input Voltage	0-264 VAC (47-63 Hz), 240 VAC nominal	0 to 15 VDC, +5/12 VDC nominal
Output Voltage	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	+10.2 to +30 VDC, +12/24 VDC nominal
Number of Points	8 out/4 in	16 out/16 in
Channel to Channel Isolation	Yes	No
Load Current per Point	2.0 A	0.5 Amps at 30 VDC maximum (resistive) 2.0 Amps maximum for 100ms inrush
Input and Output Response Time- On/Off(ms)	1 cycle/2 cycle and 10/10	0.25ms maximum/0.2ms ON and 1.0ms OFF maximum
Protection	No internal fuses or snubbers	No internal fuses or snubbers
On State Current	4 mA minimum	1.45mA minimum
Off State Current	1.5 mA maximum	0 to 0.7 mA maximum
External Power Supply	N/A	+10.2 to +30 VDC, +12/24 VDC nominal
Input Impedance	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical	2.4kOhms typical @ 12 VDC
Load Current	10 mA per point minimum; 2.0 A for 5-265 VAC maximum (resistive); 2.0 A for 5-30 VDC maximum (resistive); 0.2 A for 31-125 VDC maximum (resistive)	0.5 Amps at 30 VDC maximum (resistive); 2.0 Amps maximum for 100ms inrush
5V Backplane Current Consumption (mA)	260 maximum	115 maximum
LED Indicators	One LED per point shows individual point on/off state logic side); OK LED indicates backplane power is present	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Input Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Modules require a carrier base (IC200CHSxxx).

	IC200MDL140	IC200MDL141	IC200MDL143
Product Name	**VersaMax Discrete Input Module 120 VAC, 8 points**	**VersaMax Discrete Input Module 240 VAC, 8 points**	**VersaMax Discrete Input Module 120 VAC Isolated, 8 points**
Input Voltage	0-132 VAC	0-264 VAC	0-132 VAC
Number of Points	8	8	8
Channel to Channel Isolation	No	No	Yes
Input and Output Response Time- On/Off (ms)	1 cycle/2 cycles	1 cycle/2 cycles	1 cycle/2 cycles
Points per Common	1 group of 8	1 group of 8	8 groups of 1
On State Current	5 mA minimum	7 mA minimum	5 mA minimum
Off State Current	2.5 mA maximum	1.5 mA maximum	2.5 mA maximum
Input Impedance	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical
5V Backplane Current Consumption (mA)	55 maximum	55 maximum	50 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Input Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Modules require a carrier base (IC200CHSxxx).

	IC200MDL144	IC200MDL240	IC200MDL241
Product Name	**VersaMax Discrete Input Module 240 VAC Isolated, 4 points**	**VersaMax Discrete Input Module, 120 VAC Positive Logic, 16 points**	**VersaMax Discrete Input Module, 240 VAC Positive Logic, 16 points**
Input Voltage	0-264 VAC	0-132 VAC	0-264 VAC
Number of Points	4	16	16
Channel to Channel Isolation	Yes	No	No
Input and Output Response Time- On/Off (ms)	1 cycle/2 cycles	1 cycle/2 cycles	1 cycle/2 cycles
Points per Common	4 groups of 1	2 groups of 8	2 groups of 8
On State Current	7 mA minimum	5 mA minimum	4 mA minimum
Off State Current	3 mA maximum	2.5 mA maximum	1.5 mA maximum
Input Impedance	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical
5V Backplane Current Consumption (mA)	30 maximum	110 maximum	110 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Input Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Modules require a carrier base (IC200CHSxxx).

	IC200MDL243	IC200MDL244	IC200MDL631
Product Name	**VersaMax Discrete Input Module, 120 VAC Isolated, 16 points**	**VersaMax Discrete Input Module, 240 VAC Isolated, 8 points**	**VersaMax Discrete Input Module 125 VDC, Pos/Neg Logic, Isolated, 8 points**
Input Voltage	0-132 VAC	0-264 VAC	0-150 VDC, 125 VDC nominal
Number of Points	16	8	8 isolated inputs
Channel to Channel Isolation	Yes	Yes	Yes
Input and Output Response Time- On/Off (ms)	1 cycle/2 cycles	1 cycle/2 cycles	0.5 maximum
Points per Common	16 groups of 1	8 groups of 1	8 groups of 1
On State Current	5 mA minimum	7 mA minimum	1.0 mA minimum
Off State Current	2.5 mA maximum	3 mA maximum	0 to 0.1 mA maximum
Input Impedance	8.6 kOhms (reactive) at 60 Hz, typical; 10.32 kOhms (reactive) at 50 Hz, typical	38.5 kOhms (reactive) at 60 Hz, typical; 46.3 kOhms (reactive) at 50 Hz, typical	74 K Ohm typical at 125 VDC
5V Backplane Current Consumption (mA)	100 maximum	60 maximum	40 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Input Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Modules require a carrier base (IC200CHSxxx).

	IC200MDL632	IC200MDL635	IC200MDL636
Product Name	**VersaMax Discrete Input Module 125 VDC, Pos/Neg Logic, Isolated, 16 points**	**VersaMax Discrete Input Module 48 VDC, Pos/Neg Logic (2 Groups of 8), 16 points**	**VersaMax Discrete Input Module 48 VDC, Pos/Neg Logic (4 Groups of 8), 32 points**
Input Voltage	0-150 VDC, 125 VDC nominal	0-60 VDC, 48 VDC nominal	0-60 VDC, 48 VDC nominal
Number of Points	16 isolated inputs	16 inputs (2 groups of 8)	32 (4 groups of 8)
Channel to Channel Isolation	Yes	No	No
Input and Output Response Time- On/Off (ms)	0.5 maximum	0.5 maximum	0.5 maximum
Points per Common	16 groups of 1	2 groups of 8	4 groups of 8
On State Current	1.0 mA minimum	1.0 mA minimum	1.0 mA minimum
Off State Current	0 to 0.1 mA maximum	0 to 0.4 mA maximum	0 to 0.4 mA maximum
Input Impedance	74 K Ohm typical at 125 VDC	28 K Ohm typical	28 K Ohm typical
5V Backplane Current Consumption (mA)	80 maximum	70 maximum	140 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Input Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Modules require a carrier base (IC200CHSxxx).

	IC200MDL640	IC200MDL643	IC200MDL644	IC200MDL650
Product Name	**VersaMax Discrete Input Module, 24 VDC Pos/Neg Logic, 16 points**	**VersaMax Discrete Input Module, 5/12 VDC (TTL) Pos/Neg Logic, 16 points**	**VersaMax Discrete Input Module, 5/12 VDC (TTL) Pos/Neg Logic, 32 points**	**VersaMax Discrete Input Module, 24 VDC Positive Logic, 32 points**
Input Voltage	0-30 VDC	0-15 VDC	0-15 VDC	0-30 VDC
Number of Points	16	16	32	32
Channel to Channel Isolation	No	No	No	No
Input and Output Response Time- On/Off (ms)	0.5	0.25	0.25	0.5
Points per Common	2 groups of 8	2 groups of 8	4 groups of 8	2 groups of 8
On State Current	2.0-5.5 mA	1.45 mA minimum	1.45 mA minimum	2.0-5.5 mA
Off State Current	0-0.5 mA	0-0.7 mA maximum	0-0.7 mA maximum	0-0.5 mA
Input Impedance	10 kOhms maximum	2.4 kOhms at 12 VDC, typical	2.4 kOhms at 12 VDC, typical	10 kOhms maximum
5V Backplane Current Consumption (mA)	25 maximum	70 maximum	140 maximum	50 maximum
LED Indicators	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status. OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Output Modules

Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Modules require a carrier base (IC200CHSxxx).

	IC200MDL329	IC200MDL330	IC200MDL331
Product Name	**VersaMax Discrete Output Module, 120 VAC, 0.5A per point Isolated, 8 points**	**VersaMax Discrete Output Module, 120 VAC 0.5A per point Isolated, 16 points**	**VersaMax Discrete Output Module, 120 VAC 2.0A per point Isolated, 8 points**
Output Voltage	85-132 VAC (47-63 Hz), 120 VAC nominal	85-132 VAC (47-63 Hz), 120 VAC nominal	85-132 VAC (47-63 Hz), 120 VAC nominal
Number of Points	8	16	8
Channel to Channel Isolation	Yes	Yes	Yes
Load Current per Point	0.5 A per point	0.5 A per point	2.0 A per point
Input and Output Response Time- On/Off (ms)	<1/2 cycle/<1/2 cycle	<1/2 cycle/<1/2 cycle	<1/2 cycle/<1/2 cycle
Protection	Snubber and MOVs (each output)	Snubber and MOVs (each output)	Snubber and MOVs (each output)
Points per Common	8 groups of 1	Isolated points	Isolated points
External Power Supply	85-132 VAC (47-63 Hz), 120 VAC nominal	85-132 VAC (47-63 Hz), 120 VAC nominal	85-132 VAC (47-63 Hz), 120 VAC nominal
Load Current	10 mA minimum per point, 0.5 A maximum per point, 5.0 A for one cycle (20 ms) maximum inrush	10 mA minimum per point, 0.5 A maximum per point, 5.0 A for one cycle (20 ms) maximum inrush	10 mA minimum per point, 2.0 A maximum per point, 20 A for one cycle (20 ms) maximum inrush
5V Backplane Current Consumption (mA)	70 maximum	140 maximum	85 maximum
LED Indicators	One LED per point shows individual point ON/OFF status (logic side). OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status (logic side). OK LED indicates backplane power is present	One LED per point shows individual point ON/OFF status (logic side). OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Output Modules

Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Modules require a carrier base (IC200CHSxxx).

	IC200MDL730	IC200MDL740	IC200MDL741
Product Name	**VersaMax Discrete Output Module, 24 VDC Positive Logic 2.0A per point w/ESCP, 8 points**	**VersaMax Discrete Output Module, 24 VDC Positive Logic, 0.5A per point, 16 points**	**VersaMax Discrete Output Module, 24 VDC Positive Logic, 0.5A per point w/ESCP, 16 points**
Output Voltage	17.5-30 VDC, 24 VDC nominal	10.2-30 VDC, 12/24 VDC nominal	18-30 VDC, 24 VDC nominal
Number of Points	8	16	16
Channel to Channel Isolation	No	No	No
Load Current per Point	2.0 A per point	0.5 A per point	0.5 A per point
Input and Output Response Time- On/Off (ms)	0.5	0.2/1.0	0.5/0.5
Protection	Short circuit protection, overcurrent protection (each output)	No internal fuses (each output)	Short circuit protection, overcurrent protection, free-wheeling diodes (each output)
Points per Common	1 group of 8	1 group of 16	1 group of 16
External Power Supply	18-30 VDC, 24 VDC nominal	10.2-30 VDC, 12/24 VDC nominal	18-30 VDC, 24 VDC nominal
Load Current	2.0 A at 30 VDC maximum (resistive) per point, 8.0 A max per module	0.5 A at 30 VDC maximum (resistive); 2.0 A inrush maximum for 100 ms	0.5 A at 30 VDC maximum (resistive); 2.0 A inrush maximum for 100 ms
5V Backplane Current Consumption (mA)	50 maximum	45 maximum	75 maximum
LED Indicators	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Output Modules

Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Modules require a carrier base (IC200CHSxxx).

	IC200MDL742	IC200MDL743	IC200MDL744
Product Name	**VersaMax Discrete Output Module, 24 VDC Positive Logic 0.5A with ESCP, 32 points**	**VersaMax Discrete Output Module, 5/12/24 VDC Negative Logic, 0.5 A per point (1 group of 16) 16 points**	**VersaMax Discrete Output Module, 5/12/24 VDC Negative Logic, 0.5 A per point (2 groups of 16) 32 points**
Output Voltage	18-30 VDC, 24 VDC nominal	5/12/24 VDC	5/12/24 VDC
Number of Points	32	16 (1 group of 16)	32 (2 groups of 16)
Channel to Channel Isolation	No	No	No
Load Current per Point	0.5 A per point	0.5 A per point	0.5 A per point
Input and Output Response Time- On/Off (ms)	0.5/0.5	0.2/1.0	0.2/1.0
Protection	Short circuit protection, overcurrent protection, free-wheeling diodes (each output)	No internal fuse	No internal fuse
Points per Common	2 groups of 16	1 group of 16	2 groups of 16
External Power Supply	18-30 VDC, 24 VDC nominal	4.75 to 5.25 VDC, 5 VDC nominal for 5 VDC-TTL mode; 10.2 to 30 VDC, 12/24 VDC nominal for 12/24 VDC mode	4.75 to 5.25 VDC, 5 VDC nominal for 5 VDC-TTL mode; 10.2 to 30 VDC, 12/24 VDC nominal for 12/24 VDC mode
Load Current	0.5 A at 30 VDC maximum (resistive); 2.0 A inrush maximum for 100 ms	25 mA maximum for 5 VDC-TTL mode, 0.5 A at 30 VDC maximum, 2.0 A inrush maximum for 100 ms for 12/24 VDC mode	25 mA maximum for 5 VDC-TTL mode, 0.5 A at 30 VDC maximum, 2.0 A inrush maximum for 100 ms for 12/24 VDC mode
5V Backplane Current Consumption (mA)	150 maximum	70 maximum	140 maximum
LED Indicators	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Discrete Output Modules

Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Modules require a carrier base (IC200CHSxxx).

	IC200MDL750	IC200MDL930	IC200MDL940
Product Name	**VersaMax Discrete Output Module, 24 VDC Positive Logic, 0.5A per point, 32 points**	**VersaMax Discrete Output Module, Relay 2.0 A per point Isolated Form A, 8 points**	**VersaMax Discrete Output Module, Relay 2.0 A per point Isolated Form A, 16 points**
Output Voltage	10.2-30 VDC, 12/24 VDC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Number of Points	32	8	16
Channel to Channel Isolation	No	Yes	Yes
Load Current per Point	0.5 A per point	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC	2.0 A for 5-265 VAC, 2.0 A for 5-30 VDC, 0.2 A for 31-125 VDC
Input and Output Response Time- On/Off (ms)	0.2/1.0	10.0/10.0	10.0/10.0
Protection	No internal fuses	No internal fuses or snubbers	No internal fuses or snubbers
Points per Common	2 groups of 16	Isolated points	Isolated points
External Power Supply	10.2-30 VDC, 12/24 VDC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal	0-125 VDC, 5/24/125 VDC nominal; 0-265 VAC (47-63 Hz), 120/240 VAC nominal
Load Current	0.5 A at 30 VDC maximum (resistive); 2.0 A inrush maximum for 100 ms	10 mA per point minimum; 2.0 A for 5-265 VAC maximum (resistive); 2.0 A for 5-30 VDC maximum (resistive); 0.2 A for 31-125 VDC maximum (resistive)	10 mA per point minimum; 2.0 A for 5-265 VAC maximum (resistive); 2.0 A for 5-30 VDC maximum (resistive); 0.2 A for 31-125 VDC maximum (resistive)
5V Backplane Current Consumption (mA)	90 maximum	245 maximum	490 maximum
LED Indicators	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	One LED per point shows individual point ON/OFF state (logic side). FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Analog Input Modules

Analog input modules receive signals from current and voltage input devices. Modules require a carrier base (IC200CHSxxx).

	IC200ALG230	IC200ALG240	IC200ALG260	IC200ALG261
Product Name	**VersaMax Analog Input Module, 12 Bit Voltage/Current, 4 Channels**	**VersaMax Analog Input Module, 16 Bit Voltage/Current Isolated, 8 Channel**	**VersaMax Analog Input Module, 12 Bit Voltage/Current, 8 Channel**	**VersaMax Analog Input Module, 15 Bit Differential Voltage, 8 Channel**
Input Range	±10 VDC or 0-10 VDC	±10 VDC, 4-20 mA	4-20mA, ±10 VDC or 0-10 VDC	±10 VDC
Number of Channels	4	8 Channel to channel isolated	8	8
External Power Supply	None	Range: 19.5-30 VDC including ripple; Current consumption: 100 mA maximum plus load currents	None	None
Resolution	Bipolar mode: 2.5 mV = 8 counts, Unipolar mode: 2.5 mV = 8 counts	Current mode: 381 nA nominal Voltage mode: 381 µV nominal	Current mode: 4 µA = 8 counts, Bipolar mode: 2.5 mV = 8 counts, Unipolar mode: 2.5 mV = 8 counts	Bipolar mode: 0.3125 mV = 1 counts
Update Rate	0.4 ms	Approximately 20 mS max. @ 50 Hz filter frequency Approximately 16.7 mS max. @ 60 Hz filter frequency	0.4 ms	7.5 ms
Accuracy at 25°C	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.1% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale
Input Impedance	Voltage mode: 126 kOhms maximum, Current mode: 200 Ohms maximum	N/A	Voltage mode: 126 kOhms maximum, Current mode: 200 Ohms maximum	Voltage mode: 100 kOhms maximum
Input Filter Response	5.0 ms	N/A	5.0 ms	N/A
5V Backplane Current Consumption (mA)	125 maximum	15 maximum	130 maximum	200 maximum
3.3V Backplane Current Consumption (mA)	N/A	120 maximum	N/A	N/A
LED Indicators	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates the presence of both logic power and user power. OK LED indicates module status.	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Analog Input Modules

Analog input modules receive signals from current and voltage input devices. Modules require a carrier base (IC200CHSxxx).

	IC200ALG262	IC200ALG263	IC200ALG264
Product Name	**VersaMax Analog Input Module, 15 Bit Differential Current, 8 Channel**	**VersaMax Analog Input Module, 15 Bit Voltage, 15 Channel**	**VersaMax Analog Input Module, 15 Bit Current, 15 Channel**
Input Range	0 to 20mA or 4 to 20mA	±10 VDC	0 to 20mA or 4 to 20mA
Number of Channels	8	15	15
External Power Supply	None	None	None
Resolution	4 to 20mA: 0.5micro Amp= 1 count; 0 to 20mA: 0.625micro Amp = 1 count	Bipolar mode: 0.3125 mV = 1 count	4 to 20mA: 0.5micro Amp= 1 count; 0 to 20mA: 0.625micro Amp = 1 count
Update Rate	7.5 ms	7.5 ms	7.5 ms
Accuracy at 25°C	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale
Input Impedance	Current mode: 100 kOhms maximum	Voltage mode: 100 kOhms maximum	Voltage mode: 100 kOhms maximum, Current mode: 200 Ohms maximum
Input Filter Response	N/A	N/A	24 Hz ±20%
5V Backplane Current Consumption (mA)	200 maximum	150 maximum	100 maximum
3.3V Backplane Current Consumption (mA)	N/A	N/A	N/A
LED Indicators	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.	INT PWR LED indicates internally-generated field power is present. OK LED indicates backplane power is present.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in) , not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in) , not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in) , not including the height of the carrier or the mating connectors

Analog Output Modules

Analog output modules provide voltage or current signals to analog output devices. Modules require a carrier base (IC200CHSxxx).

	IC200ALG320	IC200ALG321	IC200ALG322
Product Name	**VersaMax Analog Output Module, 12 Bit Current, 4 Channel**	**VersaMax Analog Output Module, 12 Bit 0-10V Voltage, 4 Channel**	**VersaMax Analog Output Module, 12 Bit ±10V Voltage, 4 Channel**
Output Range	4-20 mA	0-10 VDC	±10 VDC
Number of Channels	4	4	4
External Power Supply	Range: 18-30 VDC including ripple; Current consumption: 160 mA maximum including load current	Range: 18-30 VDC including ripple; Current consumption: 125 mA maximum	Range: 18-30 VDC including ripple; Current consumption: 125 mA maximum
Resolution	4 uA = 8 counts	2.5 mV = 8 counts	5 mV = 16 counts
Update Rate	0.3 ms maximum	0.3 ms maximum	0.3 ms maximum
Accuracy at 25°C	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale
5V Backplane Current Consumption (mA)	50 maximum	50 maximum	50 maximum
3.3V Backplane Current Consumption (mA)	N/A	N/A	N/A
LED Indicators	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Analog Output Modules

Analog output modules provide voltage or current signals to analog output devices. Modules require a carrier base (IC200CHSxxx).

	IC200ALG325	IC200ALG326	IC200ALG327	IC200ALG328	IC200ALG331
Product Name	**VersaMax Analog Output Module, 13 Bit ±10 VDC or 0 to 10 VDC Voltage, 8 Channel**	**VersaMax Analog Output Module, 13 Bit Current, 8 Channel**	**VersaMax Analog Output Module, 13 Bit ±10 VDC or 0 to 10 VDC Voltage, 12 Channel**	**VersaMax Analog Output Module, 13 Bit, 0 - 20 mA, 4-20 mA Current, 12 Channel**	**VersaMax Analog Output Module, 14 Bit Voltage/ Current 1500 VAC Isolation, 4 Channel**
Output Range	±10 VDC or 0 to 10 VDC	4 to 20 mA	±10 VDC or 0 to 10 VDC	4 to 20 mA (default) 0 to 20 mA (configured with jumper)	±10 VDC, 4-20 mA
Number of Channels	8	8	12	12 single ended, one group	4
External Power Supply	Range: 18-30 VDC including ripple; Current consumption: 102 mA maximum	Range: 18-30 VDC including ripple; 2A inrush maximum, 100 mA maximum (no load), 185 mA maximum (all 8 outputs at full scale)	Range: 18-30 VDC including ripple; Current consumption: 112 mA maximum	Range: 18-30 VDC including ripple; Current consumption: 2A inrush maximum 100 mA maximum (no load) 270 mA maximum (all 12 outputs at full scale)	Range: 19.5-30 VDC including ripple; Current consumption: 100 mA maximum plus load currents
Resolution	1.25 mV = 4 counts	4-20 mA: 5 counts = 2.5 uA (~12.7 bits) 0-20 mA: 4 counts = 2.5 uA (13 bits)	1.25 mV = 4 counts	4-20 mA: 5 counts = 2.5 uA (~12.7 bits) 0-20 mA: 4 counts = 2.5 uA (13 bits)	Current mode: 381 nA nominal Voltage mode: 381 µV nominal
Update Rate	15.0 ms maximum	15.0 ms maximum	10.0 ms maximum	15 ms maximum	7 ms maximum
Accuracy at 25°C	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% of full scale (typical), ±0.5% of full scale (max) ±1% of full scale (max)	±0.3% typical of full scale, ±0.5% maximum of full scale	+/- 0.3% of full scale (typical), +/- 0.5% of full scale (max.) +/-1% of full scale (max.)	±0.1% maximum of full scale
5V Backplane Current Consumption (mA)	50 maximum	50 maximum	50 maximum	50 maximum	10 maximum
3.3V Backplane Current Consumption (mA)	N/A	N/A	N/A	N/A	115 maximum
LED Indicators	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates the presence of both logic power and user power. OK LED indicates module status.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Analog Mixed Modules

Analog mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Modules require a carrier base (IC200CHSxxx).

	IC200ALG430	IC200ALG431	IC200ALG432
Product Name	**VersaMax Analog Mixed Module, 12 Bit Input Current 4 Channel/Output Current 2 Channel**	**VersaMax Analog Mixed Module, 12 Bit 0-10V Input 4 Channel/Output 0-10V 2 Channel**	**VersaMax Analog Mixed Module, 12 Bit ±10V Input 4 Channel/Output ±10V 2 Channel**
Input Range	4-20 mA	0-10 VDC	-10 to +10 VDC
Output Range	4-20 mA	0-10 VDC	-10 to +10 VDC
External Power Supply	Range: 18-30 VDC including ripple; Current consumption: 125 mA maximum	Range: 18-30 VDC including ripple; Current consumption: 125 mA maximum	Range: 18-30 VDC including ripple; Current consumption: 125 mA maximum
Resolution	4 uA = 8 counts	2.5 mV = 8 counts	Input: 2.5 mV = 8 counts, Output: 5 mV = 16 counts
Update Rate	0.3 ms maximum	0.3 ms maximum	0.3 ms maximum
Accuracy at 25°C	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale	±0.3% typical of full scale, ±0.5% maximum of full scale
Input Impedance	200 Ohms maximum	120 kOhms minimum	125 kOhms minimum
Input Filter Response	5.0 ms	5.0 ms	5.0 ms
LED Indicators	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.	FLD PWR LED indicates field power is present. OK LED indicates backplane power is present.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

RTD and Thermocouple Modules

Specialty modules are available for RTD and Thermocouple inputs. Modules require a carrier base (IC200CHSxxx).).

	IC200ALG620	IC200ALG630
Product Name	**VersaMax Analog Input Module, 16 Bit RTD, 4 Channel**	**VersaMax Analog Input Module, 16 Bit Thermocouple, 7 Channel**
Input Range	RTD types: 25, 100, and 1000 ohm platinum 10, 50, and 100 ohm copper 100 and 120 ohm nickel 604 ohms nickel/iron	Thermocouple types: J, K, T, S, R, none (used for mV inputs)
Number of Channels	4	7
Resolution	15 bits plus sign	15 bits plus sign
Update Rate	60 Hz: approximately 210 milliseconds per channel 50 Hz: approximately 230 milliseconds per channel	60 Hz: approximately 60 milliseconds per channel 50 Hz: approximately 70 milliseconds per channel
Accuracy at 25°C	on voltage measurement: ±0.15% on resistance measurement on temperature measurement: ±0.15% on RTD (temperature) measurement	on voltage measurement: ±0.2% on temperature measurement:±0.15%
5 V Backplane Current Consumption (mA)	125 maximum	125 maximum
3.3 V Backplane Current Consumption (mA)	125 maximum	125 maximum
LED Indicators	OK LED: green indicates backplane power is present. Amber indicates module fault.	OK LED: green indicates backplane power is present. Amber indicates module fault.
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Specialty Modules

Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed. Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states. Discrete mixed modules provide maximum flexibility by combining inputs and outputs in a single, compact module. Modules require a carrier base (IC200CHSxxx).

	IC200MDD841
Product Name	**VersaMax Discrete Mixed Modules 24VDC Pos Logic Input 20/Output 12/HSC, PWM or Pulse Train**
Input Voltage	24 VDC
Output Voltage	24 VDC
Number of Points	20 in/12 out/4 configurable
Channel to Channel Isolation	No
Inrush Current	2.0 A maximum for 100 ms
Input and Output Response Time- On/Off (ms)	7 and 0.5
Protection	No internal fuses
On State Current	3.0-8.0 mA
Off State Current	0-0.5 mA
External Power Supply	24 VDC nominal, 18-30 VDC
Input Impedance	9.6 kOhms maximum
Load Current	0.5 A maximum
5V Backplane Current Consumption (mA)	30
LED Indicators	One LED per point shows individual point on/off state (logic side); OK LED indicates backplane power is present
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Expansion Modules

Expansion Modules can be used to extend a VersaMax PLC or I/O station to include up to seven additional groups of up to eight modules each, providing the architectural flexibility to accommodate larger applications.

	IC200ERM001	IC200ERM002	IC200ETM001
Product Name	**Expansion Receiver Module, Isolated**	**Expansion Receiver Module, Non-Isolated**	**Bus Transmitter Expansion Module**
Expansion Type	Receiver	Receiver	Transmitter
Distance	Up to 2460 feet	Up to 50 feet	N/A
5 V Backplane Current Consumption (mA)	430	70	44
3.3 V Backplane Current Consumption (mA)	20	20	N/A
LED Indicators	PWR LED indicates 5 VDC power status; EXP RX LED indicates status of the expansion bus; SCAN indicates whether CPU/NIU is scanning I/O in expansion racks	PWR LED indicates 5 VDC power status; EXP RX LED indicates expansion bus communications status; SCAN indicates whether CPU/NIU is scanning I/O in expansion racks	PWR LED indicates 5 VDC power status; EXP TX LED indicates expansion bus communication status
Dimensions (W x H x D)	2.63 (66.8 mm) x 5.04 (128 mm) not including the height of power supply	2.63 (66.8 mm) x 5.04 (128 mm) not including the height of power supply	37 mm (1.45 in) x 5.04 (128 mm)

Remote I/O Units

A Remote I/O Unit connects VersaMax I/O modules to a host PLC or computer via a variety of networks, which makes it easy to include VersaMax I/O in Genius, Profibus-DP, DeviceNet, or Ethernet installations. Together, the Remote I/O Unit and its modules form an I/O station capable of providing up to 256 points of I/O.

	IC200DBI001	IC200EBI001
Product Name	**Remote I/O DeviceNet Network Interface Unit (Slave)**	**Remote I/O Ethernet Network Interface Unit**
Protocol Supported	DeviceNet Slave	EGD and Modbus TCP Server
Distance	500Kbps 100m bus length and branches totaling < 39m 250Kbps 250m bus length and branches totaling < 78m 125Kbps 500m bus length and branches totaling < 156m	100 Meters max drop length 10/100Mbaud
I/O Discrete Points	Includes both discrete and analog. Up to 128 bytes of inputs + 2-byte status word Up to 128 bytes of outputs + 2-byte control word.	1024 bytes maximum both discrete and analog. %I: 2048 points %Q: 2048 points
I/O Analog Words	Includes both discrete and analog. Up to 128 bytes of inputs + 2-byte status word Up to 128 bytes of outputs + 2-byte control word.	1024 bytes maximum both discrete and analog. %AI: 128 channels %AQ: 128 channels
I/O Data	Up to 128 bytes of inputs + 2-byte status word Up to 128 bytes of outputs + 2-byte control word.	256 Bytes of input, output, Analog input and Analog output
Network Topology	Linear bus (trunkline/dropline); power and signal on the same network cable	Network dependent
Transmission Media	Shielded, dual twisted pair cable, terminated at both ends	Ethernet twisted pair
Connector	5-pin open pluggable connector	RJ-45
User Diagnostic Data	2 bytes of status/control	4
Number of Modules	8 per NIU/station	8 per NIU/station
Redundancy	N/A	No
5V Backplane Current Consumption (mA)	160	175
3.3V Backplane Current Consumption (mA)	10	425
Dimensions (W x H x D)	133.4 mm (5.25 in) x 85.9 mm (3.38 in) not including the height of power supply	133.4 mm (5.25 in) x 85.9 mm (3.38 in) not including the height of power supply

Remote I/O Units

A Remote I/O Unit connects VersaMax I/O modules to a host PLC or computer via a variety of networks, which makes it easy to include VersaMax I/O in Genius, Profibus-DP, DeviceNet, or Ethernet installations. Together, the Remote I/O Unit and its modules form an I/O station capable of providing up to 256 points of I/O.

	IC200GBI001	IC200PBI001
Product Name	**Genius Network Interface Unit**	**Remote I/O Profibus-DP Network Interface Unit (Slave)**
Protocol Supported	Genius	Profibus DP
Distance	1372 to 2286 meters - 38.4 Kbaud supports a maximum of 16 devices. 1067 to 1372 meters 76.8 Kbaud supports a maximum of 32 devices. 609 to 1067 meters - 153. 6 Kbaud extended supports a maximum of 32 devices. Less than 609 meters 153.6 Kbaud standard or 153.6 Kbaud extended supports a maximum of 32 devices.	9.6Kbits - 1,200 meters 19.2Kbits - 1,200 meters 93.75Kbits - 1,200 meters 187.5Kbits - 600 meters 500Kbits - 400 meters 1.5Mbits - 200 meters 3Mbits; 6Mbits; 12Mbits - 100 meters
I/O Discrete Points	1024 Inputs and 1024 Outputs	375 bytes maximum. Up to 244 bytes of inputs or 244 bytes of outputs
I/O Analog Words	64 Analog In and 64 Analog Out	375 bytes maximum. Up to 244 bytes of inputs or 244 bytes of outputs
I/O Data	128 bytes in and 128 out per bus scan	375 bytes maximum. Up to 244 bytes of inputs or 244 bytes of outputs.
Network Topology	Bus	Linear bus, terminated at both ends. Stubs are possible.
Transmission Media	Shielded, twisted pair, fiber optic (external option)	Shielded, twisted pair cable
Connector	Removable Connector	9-pin D-sub connector
User Diagnostic Data	Yes	2 bytes of status/control, 5 bytes of standard Profibus diagnostics
Number of Modules	8 per NIU/station	8 per NIU/station
Redundancy	Full media and hardware redundancy supported	N/A
5V Backplane Current Consumption (mA)	250	250
3.3V Backplane Current Consumption (mA)	10	10
Dimensions (W x H x D)	133.4 mm (5.25 in) x 85.9 mm (3.38 in) not including the height of power supply	133.4 mm (5.25 in) x 85.9 mm (3.38 in) not including the height of power supply

Network Interface Modules

Network Interface Modules allow a VersaMax PLC to operate as a master or slave on a network. Modules currently available support DeviceNet master or slave communications and Profibus-DP slave communications. An AS-i master communications is also available.

	IC200BEM002	IC200BEM103	IC200BEM104	IC200CHS006
Product Name	**PLC Network Communications Profibus-DP (Slave). Requires IC200CHS006 Communications Carrier.**	**PLC Network Communications DeviceNet (Master). Requires IC200CHS006 Communications Carrier.**	**PLC Network Communications AS-i (Master). Requires IC200CHS006 Communications Carrier.**	**VersaMax I/O , Local Communications Carrier (Supports IC200BEMxxx Modules**
Number of Stations	32 without repeaters; up to 125 with repeaters	N/A	N/A	N/A
I/O Data	384 Bytes maximum; up to 244 bytes of inputs or 244 bytes of outputs	Up to 128 bytes of inputs and 128 bytes of outputs	4 input bits and 4 output bits per slave	N/A
Network Data Rate	9.6 Kbaud to 12 Mbaud	125 Kbaud, 250 Kbaud, 500 Kbaud	166.6Kbits/second	N/A
Network Topology	Linear bus, terminated at both ends. Stubs are possible	Linear bus (trunkline/ dropline); power and signal on the same network cable	Tree Structure	N/A
Transmission Media	Shielded, twisted pair cable	Shielded, dual twisted pair cable	Rubber coated two wire cable	N/A
Connector	9-pin D-sub connector	5-pin open pluggable connector	Box Style	N/A
Number of Nodes	N/A	Supports up to 40 slave devices	Supports up to 31 slave devices	N/A
User Diagnostic Data	N/A	One presence bit per slave device	Display data	N/A
Power Consumption	460 mA maximum from 5 V output, 5 mA from +3.3 V output	490 mA maximum from 5 V output, 2 mA from +3.3 V output	350 mA maximum from 5 V output	N/A
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors	66.8 mm (2.63 in) x 133.4 mm (5.25 in) x 70 mm (2.75 in), not including the height of DIN Rail

Serial Communications

The serial communications expansion module provides a Modbus Master port for a Genius NIU remote I/O drop. The serial port can be used to interface with a wide range of Modbus slave devices such as controllers, VFDs, bar code readers, marques and much more. The data is transferred to and from the NIU over the Genius LAN and is compatible with any controller that supports Genius Global Data.

	IC200CMM020
Product Name	**Serial Communications Expansion Module**
Module Type	Modbus Master
NIU Type Supported	Genius
Number of Serial Communications Modules	Up to 2 per Genius NIU I/O Station
Number of RTU slaves per Serial Communications Module	1 to 247
Serial Port Type	RS-485. 15-pin subminiature 'D' connector. For RS-232 communications, an RS-485 to RS-232 adapter such as IC690ACC901 can be used. Adapter IC690ACC901 can be installed with its right-angle cable hanging down. RS-485 supports both 2-wire and 4-wire electrical interfaces
Baud Rate Supported	1200, 2400, 4800, 9600, and 19200, and half or full duplex operation
COMMREQ command memory (%AQ) required in the GENERIC_COMM module hardware configuration	Depends on individual COMMREQ content. Minimum: 22 words Maximum: 64 words
RTU Master Commands	65520, Initialize RTU Master Port 8000, Clear RTU Master Diag. Status 8001, Read RTU Master Diag. Status 8002, Send RTU Read/Force/Preset Query 8003, Send RTU Diagnostic Query
Power Consumption	460 mA maximum from 5 V output, 5 mA from +3.3 V output
Dimensions (W x H x D)	110 mm (4.3 in) x 66.8 mm (2.63 in) x 50 mm (1.956 in), not including the height of the carrier or the mating connectors

Accessories

IC200ACC001	Replacement Battery for VersaMax CPUs
IC200ACC003	EZ Program Store, CPU RS-485 Port Update Device
IC200ACC201	Expansion Terminator QTY 1
IC200ACC202	Expansion Terminator QTY 2
IC690ACC905	Encapsulated Thermistor Kit QTY 2
IC200ACC301	I/O Filler Module
IC200ACC302	I/O Input Simulator
IC200ACC303	I/O Shorting Bar QTY 2
IC200ACC304	Cable Connector Kit, QTY 2, for connector base (IC200CHS003) I/O Base (IC200CHS011, CHS012, CHS014, CHS015 and CHS1xx bases)
IC200ACC313	DIN rail clips (Qty 2) to secure modules on DIN rail
IC200TBM001	I/O Auxiliary Terminal Strip, 18 Internally Bussed, Barrier Style
IC200TBM002	I/O Auxiliary Terminal Strip, 18 Internally Bussed, Box Style
IC200TBM005	I/O Auxiliary Terminal Strip, 18 Internally Bussed, Spring Clamp Style

Cables for Connector Type Carrier

IC200CBL105	Cable, I/O Non-Shielded, 2 Connectors. 0.5M used with IC200CHS003 and IC200CHS011, 012, 015.
IC200CBL110	Cable, I/O Non-Shielded, 2 Connectors, 1.0M used with IC200CHS003 and IC200CHS011, 012, 015.
IC200CBL120	Cable, I/O Non-Shielded, 2 Connectors, 2.0M used with IC200CHS003 and IC200CHS011, 012, 015.
IC200CBL230	Cable, I/O Non-Shielded, 1 Connector, 3.0M used with IC200CHS003 and IC200CHS011, 012, 015.

Cables to Connect Rack to Rack Expansion

IC200CBL600	Rack Expansion Cable, Shielded, Single Ended, 1M to One Expansion Receiver Module (IC200ERM00x)
IC200CBL601	Rack Expansion Cable, Shielded, 2 Connectors, 1M. Supports Multidrop to Multiple Expansion Receiver Modules (IC200ERM00x)
IC200CBL602	Rack Expansion Cable, Shielded, 2 Connectors, 2M. Supports Multidrop to Multiple Expansion Receiver Modules (IC200ERM00x)
IC200ACC304	Cable Connector Kit, QTY 2, for connector base (IC200CHS003) I/O Base (IC200CHS011, CHS012, CHS014, CHS015 and CHS1xx bases)

Starter Kits

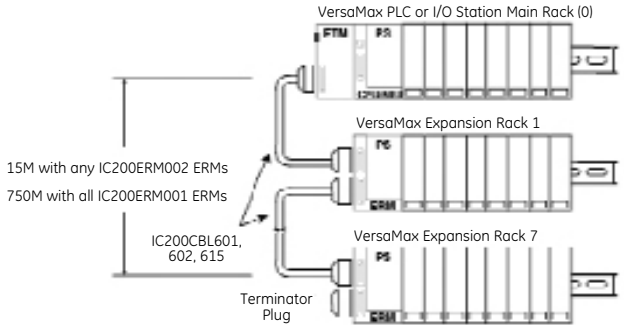
IC200PKG001	PLC Starter Kit CPU001	Contains CPU001, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1503, GFK-1504, 641VPS300 (Infolink included), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.
IC200PKG010	PLC Starter Kit CPUE05	Contains CPUE05, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1503, GFK-1504, Machine Edition (Infolink included), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.
IC200PKG101	I/O Starter Kit GENIUS	Contains GBI001, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1535, GFK-1504, 690CDR002 (Infolink), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.
IC200PKG102	I/O Starter Kit Profibus-DP	Contains PBI001, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1534, GFK-1504, 690CDR002 (Infolink), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.
IC200PKG103	I/O Starter Kit DeviceNet	Contains DBI001, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1533, GFK-1504, 690CDR002 (Infolink), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.
IC200PKG104	I/O Starter Kit Ethernet	Contains EBI001, PWR101, MDD845, CHS002, ACC302, CBL001, GFK-1534, GFK-1504, Machine Edition(Infolink), coffee mug, and plastic carry case. Does not include 24 VDC power supply for inputs.

Configuration Guidelines

When configuring a VersaMax Modular the following guidelines should be considered:

1. All I/O modules require an I/O Carrier (IC200CHS001, 002, 003, 005, 022 or 025).
2. When an I/O Connector Carrier (IC200CHS003) is selected, a cable (IC200CBL6xx) and interposing remote base (IC200CHS011, 012, 014 or 015) are required.
3. When configuring a system, the power consumptions should be tracked to determine what power supply and how many power supplies may be required.
4. DIN rail clips should be used to secure the VersaMax modules (IC200ACC313).
5. A maximum of 8 carriers, any combination of I/O or communications, can be connected directly to either an NIU or CPU. (Power Supply Booster base is not counted as a carrier). CPUs and NIUs can be expanded beyond the 8 carriers using the Bus Transmitter Expansion (IC200ETM001) and up to 7 Expansion Receiver Modules (IC200ERM00x) for a total of 64 carrier modules.

For a multiple-rack expansion system, connect the cable from the expansion port on the Expansion Transmitter to the Expansion Receivers as shown below. If all the Expansion Receivers are the Isolated type (IC200ERM001), the maximum overall cable length is 750 meters. If the expansion bus includes any non-isolated Expansion Receivers (IC200ERM002), the maximum overall cable length is 15 meters.


VersaMax PLC or I/O Station Main Rack (0)
VersaMax Expansion Rack 1
15M with any IC200ERM002 ERMs
750M with all IC200ERM001 ERMs
IC200CBL601, 602, 615
VersaMax Expansion Rack 7
Terminator Plug

Install the Terminator Plug (supplied with the Expansion Transmitter module) into the lower port on the last Expansion Receiver. Spare Terminator Plugs can be purchased separately as part number IC200ACC201 (Qty 2).

Examples of Typical Application

Configuration for Controller (Example application requiring (30) 24 VDC inputs and (10) Relay outputs AC power supply)

Power Supply Current Required (mA)	Qty	Part Number	Description
40@ 5 V and 100@ 3 V	1	IC200CPU001	VersaMax PLC CPU 32K Configurable Memory, 2 Ports RS-232 and RS-485
	1	IC200PWR101	VersaMax 120/240 VAC Power Supply (1.5 amps 5 V and 0.25 amps 3.3 V)
50 @ 5 V	1	IC200MDL650	VersaMax Discrete Input Module, 24 VDC Positive Logic, 32 points
490 @ 5 V	1	IC200MDL940	VersaMax Discrete Output Module, Relay 2.0 A per point Isolated Form A, 16 points
	2	IC200CHS022	VersaMax Compact I/O Carrier, Local Box Clamp Connection Style
	1	IC200ACC313	DIN rail clips (Qty 2) to secure modules on DIN rail
	1	BC646MPS101	Logic Developer - PLC Standard - w/Programming Cable
Total:	**580 @ 5 V and 100 @ 3 V (820 mA remaining). 1500 mA available for 5 V and 3.3 V.**		
Options to consider			
	1	IC646MPH101	Logic Developer PDA Single License with Adapters. With Logic Developer PDA, you can monitor/change data, view diagnostics, force ON/OFF, and configure machine setup — saving you time and increasing productivity.
	1	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
100 @ 5 V	1	IC200ACC003	EZ Program Store, CPU RS485 Port Update Device

Configuration for Controller (Application requiring 20K of Registers, (60) 24 VDC inputs, (15) AC Inputs, (12) AC Outputs and (20) Relay outputs also (16) Analog Inputs, (12) Isolated Analog Outputs and 24 VDC power supply. Also requires Profibus Slave connection)

Power Supply Current Required	Qty	Part Number	Description
80 @ 5 V and 650 @ 3 V	1	IC200CPU005	VersaMax PLC CPU 128K Configurable User Memory, 2 Ports RS-232 and RS-485
	3	IC200PWR002	24 VDC Power Supply with Expanded 3.3 V (Logic side supply of 1.5 amps maximum. Up to 1.0 amp can be allocated for 3.3 V usage.)
100 @ 5 V	2	IC200MDL650	VersaMax Discrete Input Module, 24 VDC Positive Logic, 32 points
110 @ 5 V	1	IC200MDL240	VersaMax Discrete Input Module, 120 VAC Positive Logic, 16 points
170 @ 5 V	2	IC200MDL331	VersaMax Discrete Output Module, 120 VAC 2.0 A per point Isolated, 8 points
980 @ 5 V	2	IC200MDL940	VersaMax Discrete Output Module, Relay 2.0 A per point Isolated Form A, 16 points
400 @ 5 V	2	IC200ALG262	VersaMax Analog Input Module, 15 Bit Differential Current, 8 Channel
10 @ 5 V and 115 @ 3 V	2	IC200ALG331	VersaMax Analog Output Module, 14 Bit Voltage/Current 1500 VAC Isolation, 8 Channel
	11	IC200CHS022	VersaMax Compact I/O Carrier, Local Box Clamp Connection Style
460 @ 5 V and 5 @ 3 V	1	IC200BEM002	PLC Network Communications Profibus-DP (Slave)
	1	IC200PWB001	VersaMax Power Supply Booster Carrier. Supplies power to all modules to the right of booster. Requires power supply.
	1	IC200CHS006	VersaMax I/O, Local Communications Carrier
44 @ 5 V	1	IC200ETM001	Bus Transmitter Expansion Module
70 @ 5 V and 20 @ 3 V	1	IC200ERM002	Expansion Receiver Module, Non-Isolated
	1	IC200CBL600	Cable Expansion Shielded Single Ended 1M
	1	IC200ACC313	DIN rail clips (Qty 2) to secure modules on DIN rail
	1	BC646MPS101	Logic Developer - PLC Standard - w/Programming Cable
Total:	**2424 @ 5 V and 790 @ 3 V Required. 4500 mA available for 5 V and 3.3 V. Power Supply Booster required with extra Power Supply to meet power requirements.**		

(continued on next page)

Options to consider			
	1	IC646MPH101	Logic Developer PDA Single License with Adapters . With Logic Developer PDA, you can monitor/change data, view diagnostics, force ON/OFF, and configure machine setup — saving you time and increasing productivity.
	1	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
	1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch DC
100 @ 5 V	1	IC200ACC003	EZ Program Store, CPU RS485 Port Update Device

Configuration for Controller Ethernet connectivity, (60) 24 VDC inputs, (20) Relay outputs, (16) Analog Inputs, (12) Thermocouples on a remote Ethernet drop, (12) Isolated Analog Outputs and 24 VDC power supply. Also requires Color TFT Operator Interface with Touch Screen.

Power Supply Current Required	Qty	Part Number	Description
160 @ 5 V and 650 @ 3 V	1	IC200CPUE05	VersaMax PLC CPU 128K Configurable User Memory, 2 Ports RS-232 and RS-485, 10 MBIT Ethernet Port. Supports SRTP and EGD.
	2	IC200PWR002	24 VDC Power Supply with Expanded 3.3 V (Logic side supply of 1.5 amps maximum. Up to 1.0 amp can be allocated for 3.3 V usage.)
	1	IC200PWB001	VersaMax Power Supply Booster Carrier. Supplies power to all modules to the right of booster. Requires power supply.
100 @ 5 V	2	IC200MDL650	VersaMax Discrete Input Module, 24 VDC Positive Logic, 32 points
980 @ 5 V	2	IC200MDL940	VersaMax Discrete Output Module, Relay 2.0 A per point Isolated Form A, 16 points
400 @ 5 V	2	IC200ALG262	VersaMax Analog Input Module, 15 Bit Differential Current, 8 Channel
10 @ 5 V and 115 @ 3 V	2	IC200ALG331	VersaMax Analog Output Module, 14 Bit Voltage/Current 1500 VAC Isolation, 8 Channel
	8	IC200CHS022	VersaMax Compact I/O Carrier, Local Box Clamp Connection Style
	2	IC200ACC313	DIN rail clips (Qty 2) to secure modules on DIN rail
	1	BC646MBT001	Logic Developer PLC Standard Edition and View for QuickPanel with 15 mos. of Proficy GlobalCare which is renewable on an annual basis.
	1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch DC
Total:	**1650 @ 5 V and 765 @ 3 V. 3000 mA available for 5 V and 3.3 V.**		
Ethernet Remote Drop			
175 @ 5 V and 425 @ 3 V	1	IC200ETM001	Bus Transmitter Expansion Module
	1	IC200PWR002	24 VDC Power Supply with Expanded 3.3 V (Logic side supply of 1.5 amps maximum. Up to 1.0 amp can be allocated for 3.3 V usage.)
250 @ 5 V and 250 @ 3 V	2	IC200ALG630	VersaMax Analog Input Module, 16 Bit Thermocouple, 7 Channel
	1	IC690ACC905	Encapsulated Thermistor Kit Qty 2
	2	IC200CHS022	VersaMax Compact I/O Carrier, Local Box Clamp Connection Style
	1	IC200ACC313	DIN rail clips (Qty 2) to secure modules on DIN rail
Total:	**2424 @ 5 V and 790 @ 3 V Required. 4500 mA available for 5 V and 3.3 V. Power Supply Booster required with extra Power Supply to meet power requirements.**		
Options to consider			
	1	IC646MPH101	Logic Developer PDA Single License with Adapters. With Logic Developer PDA, you can monitor/change data, view diagnostics, force ON/OFF, and configure machine setup — saving you time and increasing productivity.
	1	IC690PWR124	24 VDC, 10 Amp Output Power and 120/230 VAC Input Power Power Supply
100 @ 5 V	1	IC200ACC003	EZ Program Store, CPU RS485 Port Update Device

Notes

VersaMax Nano and Micro Controllers

Don't let size fool you. Although they are easy on valuable panel space, the VersaMax Nano and Micro PLCs are big on features. For high-volume applications where cost and fast processor speeds are an issue, the VersaMax Nano is the PLC of choice. For additional functionality, the modular VersaMax Micro offers the features and the flexibility to match application needs in such industries as food processing, chemicals, packaging, water and wastewater, construction equipment and plastics.

For tight spaces, the VersaMax Nano PLC is the perfect solution. Thanks to its all-in-one construction, installation is a breeze. All you have to do is snap it onto a DIN rail or screw it into a panel. With the VersaMax Nano, you save on initial as well as life cycle costs.

The small-footprint VersaMax Micro PLC offers the flexibility of modular design and a variety of built-in features, including up to 64 I/O points (expandable to 170 I/O points), fast cycle times, a robust instruction set and extensive memory that multiplies your programming options.

Proficy Machine Edition

Proficy Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.

Publication Reference Chart

GFK-1645	VersaMax Micro PLCs and Nano PLCs User's Manual
IC690CDU002	InfoLink for PLC CD-ROM

Nano PLCs, page 213

Micro PLCs, pages 214-221

Expansion Units, pages 223-233

Accessories, pages 239-240

Configuration Guidelines, pages 241-242

DataPanels Operator Interfaces, page 234

Communications Options, pages 235-236

Portable Program Download Device (PPDD), pages 237-238

VersaMotion Servo Motors and Amplifiers, pages 243-250

VersaMax Nano and Micro Selection Guide

Features	Nano 10	Micro 14	Micro 23	Micro 28	Micro 20	Micro 40	Micro 64
Built-in Discrete I/O	6 in/ 4out	8 in/ 6 out	13 in/10 out	16 in/12 out	12 in/8 out	24 in/16 out	40 in/24 out
Built-in Analog I/O	1 on some models	none	2 in/ 1 out	none	none	none	none
I/O Expansion Units	none	Up to 4 units	Up to 4 units	Up to 4 units	Up to 4 units	Up to 4 units	Up to 4 units
Logic Memory (Words)	2K	9K	9K	9K	24K	24K	24K
Data Storage (Words)	256	256	2K	2K	32K	32K	32K
Scan Time (msec/K)	1.3 msec	1.1 msec	1.1 msec	1.1 msec	1.1 msec	1.1 msec	1.1 msec
Battery Backed RAM	Super Cap only	Super Cap only	Yes and Super Cap	Yes and Super Cap	Yes and Super Cap	Yes and Super Cap	Yes and Super Cap
Real Time Clock	none	none	Yes, Included	Yes, Included	Yes, Included	Yes, Included	Yes, Included
Ports Available	1 RS-232	1 RS-232	1 RS-232 and 1 RS-485	1 RS-232 and 1 RS-485	1 RS-232 and second port optional RS-232, RS-485, USB or Ethernet	1 RS-232 and second port optional RS-232, RS-485, USB or Ethernet	1 RS-232 and second port optional RS-232, RS-485, USB or Ethernet
Ethernet Option	Yes, VersaMax SE	Yes, VersaMax SE	Yes, VersaMax SE	Yes, VersaMax SE	Yes on second port	Yes on second port	Yes on second port
High Speed Counter	Up to 4 at 10Khz (16 bit)	Up to 4 at 10Khz (16 bit)	Up to 4 at 10Khz (16 bit)	Up to 4 at 10Khz (16 bit)	Up to 4 at 100Khz (32 bit)	Up to 4 at 100Khz (32 bit)	Up to 4 at 100Khz (32 bit)
Pulse Train/PWM	Up to 4 at 5Khz (16 bit)	Up to 4 at 5Khz (16 bit)	Up to 4 at 5Khz (16 bit)	Up to 4 at 5Khz (16 bit)	Up to 4 at 65Khz (32 bit)	Up to 4 at 65Khz (32 bit)	Up to 4 at 65Khz (32 bit)
Motion Commands	N/A	N/A	N/A	N/A	Find Home, Go Home, Jog, Ramp, Blended Move (4 Consecutive Moves)	Find Home, Go Home, Jog, Ramp, Blended Move (4 Consecutive Moves)	Find Home, Go Home, Jog, Ramp, Blended Move (4 Consecutive Moves)
Write Register Values to Internal Flash	No	Yes	Yes	Yes	Yes	Yes	Yes
On Line Program Support	No	No	No	No	Yes with Firmware 3.9 & Hardware revision B	Yes with Firmware 3.9	Yes with Firmware 3.9

Powerful Instruction Set

Bit Operation Functions

- Logic AND, Logic OR
- Exclusive OR, Logical Invert
- Shift Right/Left
- Rotate Right/Left
- Bit Test/Set/Clear
- Masked Compare
- Bit Position
- Bit Sequencer

Control Functions

- Do I/O
- Call
- End
- Subroutines
- Comments
- Master Control Relay
- Service Request
- PID

Table Functions

- Array Move
- Search

Data Move Functions

- Move
- Block Move
- Block Clear
- Shift Register
- Communications Request
  - Motion Moves
  - High Speed Counter
  - Serial Read/Write
  - Modbus Master

Conversion Functions

- BCD- 4
- Signed Integer
- Double Precision Signed Integer
- Real
- Real to Word
- Truncate Real Number

Math and Numerical Functions

- +, -, x, /
- Modulo division
- Scaling
- Square Root
- Trigonometric Functions
- Logarithmic/Exponential
- Convert Radians

Relation Functions

- Equal
- Not Equal
- Greater Than
- Less Than
- Greater or Equal
- Less or Equal
- Range

Relay Functions

- Contacts, Coils
- Fault and No Fault Contacts
- Alarm Contacts

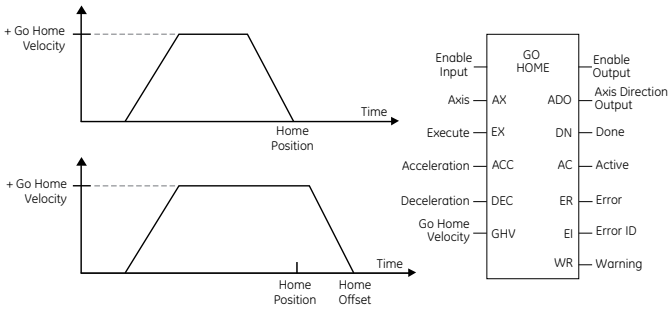
Timer and Counters

- Time-tick Contacts
- On-delay Stopwatch timer
- On-delay timer
- Off-delay timer
- Up Counter
- Down Counter

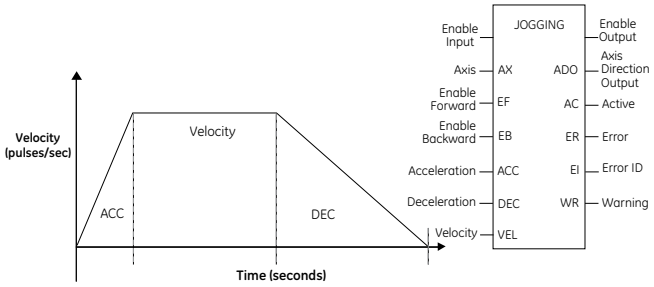
Motion Functions

- Find Home/Go Home
- Ramp
- Jog
- Blended Move
- Stop Move
- Windowing
- Follower Mode

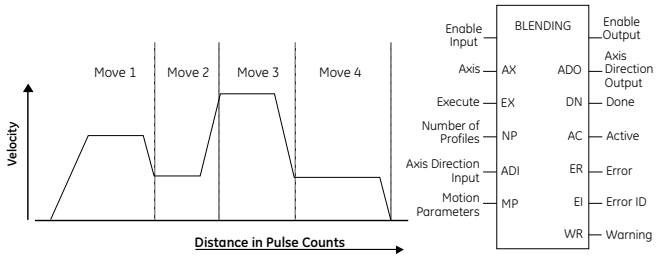
New Powerful Motion Functions



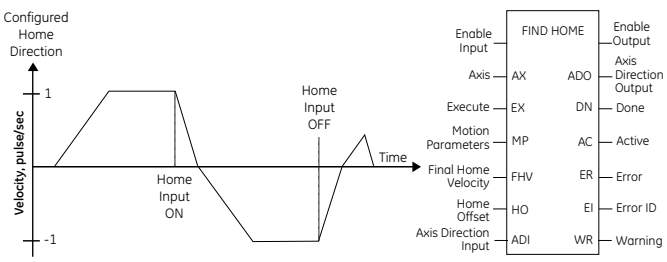
Go Home (With or without offset)



Jog



Blended Move (Up to 4 Moves)



Find Home

Nano 10 PLCs

The palm-sized VersaMax Nano PLC is highly compact, with an all-in-one construction that saves panel space. Installation is a breeze: simply snap it onto a DIN-rail or mount it on a panel. Because it gives you more capabilities in a smaller, less expensive package, the Nano PLC is ideal for high-volume applications that require low cost, compact size, and fast processor speeds. The Nano decreases your life-cycle costs as well, with easy installation and long-term reliability.

	IC200NAL110	IC200NAL211	IC200NDD010	IC200NDD101	IC200NDR001	IC200NDR010
Product Name	**10 point (6) 12 VDC In, (1) Analog Voltage In, (4) Relay Out, 12 VDC Powered**	**10 point (6) 24 VDC In, (1) Analog Voltage In, (4) Relay Out, 24 VDC Powered**	**10 point (6) 12 VDC In, (4) 12 VDC Out, 12 VDC Powered**	**10 point (6) 24 VDC In, (4) 24 VDC Out, 24 VDC Powered**	**10 point (6) 24 VDC In, (4) Relay Out, 24 VDC Powered**	**10 point (6) 12 VDC In, (4) Relay Out, 12 VDC Powered**
Number of Discrete Inputs/Outputs	6 In / 4 Out (Non Expandable)	6 In / 4 Out (Non Expandable)	6 In / 4 Out (Non Expandable)	6 In / 4 Out (Non Expandable)	6 In / 4 Out (Non Expandable)	6 In / 4 Out (Non Expandable)
Number of Analog Inputs/Outputs	1 In	1 In	N/A	N/A	N/A	N/A
Physical I/O Maximum	10	10	10	10	10	10
User Program Logic Memory (Words)	2 K	2 K	2 K	2 K	2 K	2 K
Registers (Words)	256	256	256	256	256	256
Analog Pots for Data Adjustment	Yes, 2	Yes, 2	Yes, 2	Yes, 2	Yes, 2	Yes, 2
Serial Port Connector Type	RJ-45 (RS-232)	RJ-45 (RS-232)	RJ-45 (RS-232)	RJ-45 (RS-232)	RJ-45 (RS-232)	RJ-45 (RS-232)
Protocols	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write
Power Voltage	12 VDC	24 VDC	12 VDC	24 VDC	24 VDC	12 VDC
Input Power Supply Rating	3 watts internal	3 watts internal	3 watts internal	3 watts internal	3 watts internal	3 watts internal
Input Device Voltage	12 VDC	24 VDC	12 VDC	24 VDC	24 VDC	12 VDC
Maximum Type A and B Counters	2 Type A and 1 Type B @ 10Khz (16 bit)	2 Type A and 1 Type B @ 10Khz (16 bit)	2 Type A and 1 Type B @ 10Khz (16 bit)	2 Type A and 1 Type B @ 10Khz (16 bit)	2 Type A and 1 Type B @ 10Khz (16 bit)	2 Type A and 1 Type B @ 10Khz (16 bit)
Analog Input Ranges	0 to 10 VDC (8 bit)	0 to 10 VDC (8 bit)	N/A	N/A	N/A	N/A
Output Control Voltage	Relay Out	Relay Out	12 VDC	24 VDC	Relay Out	Relay Out
Relay Maximum Resistive Load Rating	2 Amps at 5 VDC and 240 VAC	2 Amps at 5 VDC and 240 VAC	N/A	N/A	2 Amps at 5 VDC and 240 VAC	2 Amps at 5 VDC and 240 VAC
Maximum Number of PWM/Pulse Outputs	0	0	3 @ 5Khz (16 bit)	3 @ 5Khz (16 bit)	0	0
Dimensions (WxHxD) mm	75x80x47	75x80x47	75x80x47	75x80x47	75x80x47	75x80x47
Operating Temperature	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C	0°C to +55°C
Programming Software	VersaPro 2.0 or greater, Proficy Machine Edition Logic Developer	VersaPro 2.0 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer
Portable Memory Module Support	No	No	No	No	No	No

Micro 14 PLCs

The Micro 14 PLC is big on features; from up to 14 I/O built-in (expandable to 126 I/O) points to fast cycle times, robust instruction set, and generous memory to allow more flexible programming. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UAA003	IC200UAR014	IC200UDD104	IC200UDD112
Product Name	**14 point (8) 120 VAC In, (6) 120 VAC Out, 120/240 VAC Powered**	**14 point, (8) 120 VAC In, (6) Relay Out, 120/240 VAC Powered**	**14 point (8) 24 VDC In, (6) 12/24 VDC Out, (2) @ 1.0 A, (4) @ 0.5 A, 24 VDC Powered**	**14 point (8) 12 VDC In, (6) 12 VDC Out, 0.7 A, 12 VDC Powered**
Number of Discrete Inputs/Outputs	8 In / 6 Out (Supports 4 Expansion Units)	8 In / 6 Out (Supports 4 Expansion Units)	8 In / 6 Out (Supports 4 Expansion Units)	8 In / 6 Out (Supports 4 Expansion Units)
Number of Analog Inputs/Outputs	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)
Physical I/O Maximum	126	126	126	126
User Program Logic Memory (Words)	9 K	9 K	9 K	9 K
Registers (Words)	256	256	256	256
Analog Pots for Data Adjustment	Yes, 2	Yes, 2	Yes, 2	Yes, 2
Serial Port Connector Type	RJ-45 (RS-232)	RJ-45 (RS-232)	RJ-45 (RS-232)	RJ-45 (RS-232)
Protocols	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write
Power Voltage	120/240 VAC	120/240 VAC	24 VDC	12 VDC
Input Power Supply Rating	11 VA	11 VA	4 Watts	3 Watts
24 VDC User Power for Sensors	N/A	200 mA	200 mA	200 mA
Input Device Voltage	120 VAC	120 VAC	24 VDC	12 VDC
Maximum Type A and B Counters	N/A	N/A	4 Type A and 1 Type B @ 10Khz (16 bit)	4 Type A and 1 Type B @ 10Khz (16 bit)
Output Control Voltage	120 VAC	N/A	24 VDC	12 VDC
Relay Maximum Resistive Load Rating	N/A	6 @ 2 Amps at 24 VDC and 240 VAC; 2 @10 Amps at 24 VDC and 240 VAC	N/A	N/A
Maximum Number of PWM/Pulse Outputs	N/A	N/A	4 @ 5Khz (16 bit)	4 @ 5Khz (16 bit)
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76	95x90x76
Programming Software	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer
Portable Memory Module Support	No	No	No	No

Micro 14 PLCs

The Micro 14 PLC is big on features; from up to 14 I/O built-in (expandable to 126 I/O) points to fast cycle times, robust instruction set, and generous memory to allow more flexible programming. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UDR001	IC200UDR002	IC200UDR003
Product Name	**14 point (8) 24 VDC In, (6) Relay Out, 120/240 VAC Powered**	**14 point (8) 24 VDC In, (6) Relay Out, 24 VDC Powered**	**14 point (8) 12 VDC In, (6) Relay Out, 12 VDC Powered**
Number of Discrete Inputs/Outputs	8 In / 6 Out (Supports 4 Expansion Units)	8 In / 6 Out (Supports 4 Expansion Units)	8 In / 6 Out (Supports 4 Expansion Units)
Number of Analog Inputs/Outputs	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)
Physical I/O Maximum	126	126	126
User Program Logic Memory (Words)	9 K	9 K	9 K
Registers (Words)	256	256	256
Analog Pots for Data Adjustment	Yes, 2	Yes, 2	Yes, 2
Serial Port Connector Type	RJ-45 (RS-232)	RJ-45 (RS-232)	RJ-45 (RS-232)
Protocols	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write	SNP, SNP X (Breakless) RTU Slave (2 and 4 wire RTU Slave). Serial Read and Write
Power Voltage	120/240 VAC	24 VDC	12 VDC
Input Power Supply Rating	13 VA	4 Watts	3 Watts
24 VDC User Power for Sensors	200 mA	200 mA	200 mA
Input Device Voltage	24 VDC	24 VDC	12 VDC
Maximum Type A and B Counters	4 Type A and 1 Type B @ 10Khz (16 bit)	4 Type A and 1 Type B @ 10Khz (16 bit)	4 Type A and 1 Type B @ 10Khz (16 bit)
Output Control Voltage	Relay Out	Relay Out	Relay Out
Relay Maximum Resistive Load Rating	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC
Maximum Number of PWM/Pulse Outputs	0	0	0
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76
Programming Software	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer
Portable Memory Module Support	No	No	No

Micro 23 PLCs

The Micro 23 PLC is big on features with 23 discrete I/O and two analog inputs and one analog output built-in (expandable to 135 I/O) points. The Micro 23 executes fast cycle times, robust instruction set, and generous memory to allow more flexible programming. And it's all packaged in a sturdy modular design for easy access and long-term durability.

	IC200UAL004	IC200UAL005	IC200UAL006
Product Name	**23 point; (13) 12 VDC In, (10) Relay Out, (2) Analog In and (1) Analog Out, 12 VDC Powered.**	**23 point; (13) 24 VDC In, (9) Relay Out, (1) 24 VDC Out, (2) Analog In and (1) Analog Out, 24 VDC Powered.**	**23 point; (13) 24 VDC In, (9) Relay Out, (1) 24 VDC Out, (2) Analog In and (1) Analog Out, 120/240 VAC Powered.**
Number of Discrete Inputs/Outputs	13 In / 10 Out (Supports 4 Expansion Units)	13 In / 10 Out (Supports 4 Expansion Units)	13 In / 10 Out (Supports 4 Expansion Units)
Number of Analog Inputs/Outputs	2 analog in / 1 analog out built-in and supports up to 4 analog expansion units (16 analog in/ 8 analog out)	2 analog in / 1 analog out built-in and supports up to 4 analog expansion units (16 analog in/ 8 analog out)	2 analog in / 1 analog out built-in and supports up to 4 analog expansion units (16 analog in/ 8 analog out)
Physical I/O Maximum	135	135	135
User Program Logic Memory (Words)	9 K	9 K	9 K
Registers (Words)	2 K	2 K	2 K
Analog Pots for Data Adjustment	Yes, 2	Yes, 2	Yes, 2
Serial Port Connector Type	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)
Protocols	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write
Power Voltage	12 VDC	24 VDC	120/240 VAC
Input Power Supply Rating	8 Watts	8 Watts	34 VA
24 VDC User Power for Sensors	200 mA	200 mA	200 mA
Input Device Voltage	12 VDC	24 VDC	24 VDC
Maximum Type A and B Counters	4 Type A and 1 Type B @ 10Khz (16 bit)	4 Type A and 1 Type B @ 10Khz (16 bit)	4 Type A and 1 Type B @ 10Khz (16 bit)
Analog Input Ranges	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit Resolution	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit Resolution	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit Resolution
Output Control Voltage	Relay Out	Relay Out	Relay Out
Relay Maximum Resistive Load Rating	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC
Maximum Number of PWM/Pulse Outputs	N/A	1 @ 5Khz (16 bit)	1 @ 5Khz (16 bit)
Analog Output Ranges	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit Resolution	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit Resolution	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit Resolution
Dimensions (WxHxD) mm	150x90x76	150x90x76	150x90x76
Programming Software	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer
Portable Memory Module Support	No	No	No

Micro 28 PLC

The Micro 28 PLC is big on features with the built-in 28 I/O (expandable to 140 I/O) points to fast cycle times, two built-in serial ports, robust instruction set, and generous memory to allow more flexible programming. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UAA007	IC200UAR028	IC200UDD110	IC200UDD120
Product Name	**28 point; (16) 120 VAC In, (12) 120 VAC Out, 120/240 VAC Powered.**	**28 point, (16) 120 VAC In, (12) Relay Out, 120/240 VAC Powered.**	**28 point; (16) 24 VDC In, (12) 24 VDC Out (6) @ 1.0 A, (6) @ 0.5 A, 24 VDC Powered.**	**28 point; (16) 24 VDC In, (12) 24 VDC Out (6) @ 1.0 A, (6) @ 0.5 A, 24 VDC Powered.**
Number of Discrete Inputs/Outputs	16 In / 12 Out (Supports 4 Expansion Units)	16 In / 12 Out (Supports 4 Expansion Units)	16 In / 12 Out (Supports 4 Expansion Units)	16 In / 12 Out (Supports 4 Expansion Units)
Number of Analog Inputs/Outputs	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)
Physical I/O Maximum	140	140	140	140
User Program Logic Memory (Words)	9 K	9 K	9 K	9 K
Registers (Words)	2 K	2 K	2 K	2 K
Analog Pots for Data Adjustment	Yes, 2	Yes, 2	Yes, 2	Yes, 2
Serial Port Connector Type	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)
Protocols	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write
Power Voltage	120/240 VAC	120/240 VAC	24 VDC	24 VDC
Input Power Supply Rating	16 VA	16 VA	5 Watts	5 Watts
24 VDC User Power for Sensors	N/A	200 mA	200 mA	200 mA
Input Device Voltage	120 VAC	120 VAC	24 VDC	24 VDC
Maximum Type A and B Counters	N/A	N/A	4 Type A and 1 Type B @ 10Khz (16 bit)	4 Type A and 1 Type B @ 10Khz (16 bit)
Output Control Voltage	120 VAC	Relay Out	24 VDC	24 VDC ESCP, Self Healing, No External Fusing Required
Relay Maximum Resistive Load Rating	N/A	10 @ 2 Amps at 24 VDC and 240 VAC; 2 @ 10 Amps at 24 VDC and 240 VAC	N/A	N/A
Maximum Number of PWM/Pulse Outputs	N/A	N/A	4 @ 5Khz (16 bit)	4 @ 5Khz (16 bit)
Dimensions (WxHxD) mm	150x90x76	150x90x76	150x90x76	150x90x76
Programming Software	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer
Portable Memory Module Support	No	No	No	No

Micro 28 PLC

The Micro 28 PLC is big on features with the built-in 28 I/O (expandable to 140 I/O) points to fast cycle times, two built-in serial ports, robust instruction set, and generous memory to allow more flexible programming. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UDD212	IC200UDR005	IC200UDR006	IC200UDR228	IC200UDR010
Product Name	**28 point (16) 12 VDC In, (12) 12 VDC Out, 0.7A, 12 VDC Powered**	**28 point; (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 120/240 VAC . Powered**	**28 point (16) 12 VDC In, (12) Relay Out, 12 VDC Powered**	**28 point; (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 12/24 VDC Powered**	**28 point; (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 24 VDC Powered**
Number of Discrete Inputs/Outputs	16 In / 12 Out (Supports 4 Expansion Units)	16 In / 12 Out (Supports 4 Expansion Units	16 In / 12 Out (Supports 4 Expansion Units	16 In / 12 Out (Supports 4 Expansion Units	16 In / 12 Out (Supports 4 Expansion Units
Number of Analog Inputs/Outputs	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units 16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)
Physical I/O Maximum	140	140	140	140	140
User Program Logic Memory (Words)	9 K	9 K	9 K	9 K	9 K
Registers (Words)	2 K	2 K	2 K	2 K	2 K
Analog Pots for Data Adjustment	Yes, 2	Yes, 2	Yes, 2	Yes, 2	Yes, 2
Serial Port Connector Type	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)	RJ-45 (RS-232) port 1 and DB-15 (RS-485 on port 2)
Protocols	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write	Port 1, SNP, SNP X (Breakless); Port 2, SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write
Power Voltage	12 VDC	120/240 VAC	12 VDC	12/24 VDC	24 VDC
Input Power Supply Rating	8 Watts	26 VA	8 Watts	8 Watts	8 Watts
24 VDC User Power for Sensors	200 mA	200 mA	200 mA	140 mA	200 mA
Input Device Voltage	12 VDC	24 VDC	12 VDC	24 VDC	24 VDC
Maximum Type A and B Counters	4 Type A and 1 Type B @ 10Khz (16 bit)	4 Type A and 1 Type B @ 10Khz (16 bit)	4 Type A and 1 Type B @ 10Khz (16 bit)	4 Type A and 1 Type B @ 10Khz (16 bit)	4 Type A and 1 Type B @ 10Khz (16 bit)
Output Control Voltage	12 VDC	Relay Out	Relay Out	Relay Out	Relay Out
Relay Maximum Resistive Load Rating	N/A	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC
Maximum Number of PWM/Pulse Outputs	4 @ 5Khz (32 bit)	1 @ 5Khz (16 bit)	1 @ 5Khz (16 bit)	1 @ 5Khz (16 bit)	1 @ 5Khz (16 bit)
Dimensions (WxHxD) mm	150x90x76	150x90x76	150x90x76	150x90x76	150x90x76
Programming Software	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	VersaPro 1.1 or greater, Proficy Machine Edition Logic Developer
Portable Memory Module Support	No	No	No	No	

Micro 20 PLC

The Micro 20 PLC is big on features, expandable to 132 I/O points to fast cycle times, robust instruction set, and generous memory to allow more flexible programming. The optional second port provides you with the option of an additional RS-232 port, RS-485, USB, or Ethernet. The serial expansion ports come with two analog input channels. A user-friendly memory module is available to easily download changes to the controller without the need of a PC. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UDD020	IC200UDD220	IC200UDR120	IC200UDR020
Product Name	**Micro 20; (12) 24 VDC In, (8) 24 VDC Source Out 0.7 amps with ESCP protection, 24 VDC Powered**	**Micro 20; (12) 24 VDC In, (8) 24 VDC Sink Out, 24 VDC Powered**	**Micro 20; (12) 24 VDC In, 8) Relay Out 2.0 amps, 120/240VAC Powered**	**Micro 20; (12) 24 VDC In, (8) Relay Out 2.0 amps, 24VDC Powered**
Number of Discrete Inputs/Outputs	12 In / 8 Out (Supports 4 Expansion Units)	12 In / 8 Out (Supports 4 Expansion Units)	12 In / 8 Out (Supports 4 Expansion Units)	12 In / 8 Out (Supports 4 Expansion Units)
Number of Analog Inputs/Outputs	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analo) expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)
Physical I/O Maximum	132	132	132	132
User Program Logic Memory (Words)	24 K	24 K	24 K	24 K
Registers (Words)	32 K	32 K	32 K	32 K
Analog Pots for Data Adjustment	No	No	No	No
Serial Port Connector Type	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)
Protocols	Both Ports: SNP, SNP X (Breakless),RTU Master and Slave 2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless),RTU Master and Slave 2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless),RTU Master and Slave 2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless),RTU Master and Slave 2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling
Power Voltage	24 VDC	24 VDC	120/240 VAC	24 VDC
Input Power Supply Rating	10 Watts	10 Watts	35 VA	10 Watts
24 VDC User Power for Sensors	435 mA	435 mA	435 mA	435 mA
Input Device Voltage	24 VDC	24 VDC	24 VDC	24 VDC
Maximum Type A and B Counters	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)
Output Control Voltage	24 VDC ESCP; Self Healing; No External Fusing Required	24 VDC Sink	Relay Out	Relay Out
Relay Maximum Resistive Load Rating	N/A	N/A	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC
Maximum Number of PWM/Pulse Outputs	4 @ 65Khz (32 bit)	4 @ 65Khz (32 bit)	N/A	N/A
Dimensions (WxHxD) mm	150x90x76	150x90x76	150x90x76	150x90x76
Programming Software	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix
Portable Memory Module Support	Yes	Yes	Yes	Yes

Micro 40 PLC

The Micro 40 PLC is big on features, expandable to 152 I/O points to fast cycle times, robust instruction set, and generous memory to allow more flexible programming. The optional second port provides you with the option of an additional RS-232 port, RS-485, USB, or Ethernet. The serial expansion ports come with two analog input channels. A user-friendly memory module is available to easily download changes to the controller without the need of a PC. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UDD040	IC200UDD240	IC200UDR140	IC200UDR040	IC200UDR440
Product Name	**Micro 40; (24) 24 VDC In, (16) 24 VDC Source Out, 0.7 amps with ESCP protection, 24 VDC Powered**	**Micro 40; (24) 24 VDC In, (16) 24 VDC Sink Out, 24 VDC Powered**	**Micro 40; (24) 24 VDC In, (16) Relay Out 2.0 amps, 120/240 VAC Powered**	**Micro 40; (24) 24 VDC In, (16) Relay Out 2.0 amps, 24 VDC Powered**	**Micro 40; (24) 24 VDC In, (16) Relay Out 2.0 amps 12/24 VDC Powered**
Number of Discrete Inputs/Outputs	24 In / 16 Out (Supports 4 Expansion Units)	24 In / 16 Out (Supports 4 Expansion Units)	24 In / 16 Out (Supports 4 Expansion Units)	24 In / 16 Out (Supports 4 Expansion Units)	24 In / 16 Out (Supports 4 Expansion Units)
Number of Analog Inputs/Outputs	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)
Physical I/O Maximum	152	152	152	152	152
User Program Logic Memory (Words)	24 K	24 K	24 K	24 K	24 K
Registers (Words)	32 K	32 K	32 K	32 K	32 K
Analog Pots for Data Adjustment	No	No	No	No	No
Serial Port Connector Type	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100Mbit)
Protocols	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling
Power Voltage	24 VDC	24 VDC	120/240 VAC	24 VDC	12/24 VDC
Input Power Supply Rating	10 Watts	10 Watts	35 VA	10 Watts	10 Watts
24 VDC User Power for Sensors	435 mA	435 mA	435 mA	435 mA	120 mA
Input Device Voltage	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC
Maximum Type A and B Counters	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)
Output Control Voltage	24 VDC ESCP; Self Healing; No External Fusing Required	24 VDC Sink	Relay Out	Relay Out	Relay Out
Relay Maximum Resistive Load Rating	N/A	N/A	2 Amps at 24 VDC and 240 VA	2 Amps at 24 VDC and 240 VA	2 Amps at 24 VDC and 240 VA
Maximum Number of PWM/Pulse Outputs	4 @ 65Khz (32 bit)	4 @ 65Khz (32 bit)	N/A	N/A	N/A
Dimensions (WxHxD) mm	150x90x76	150x90x76	150x90x76	150x90x76	150x90x76
Programming Software	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix
Portable Memory Module Support	Yes	Yes	Yes	Yes	Yes

Micro 64 PLC

The Micro 64 PLC is big on features, expandable to 176 I/O points to fast cycle times, robust instruction set, and generous memory to allow more flexible programming. The optional second port provides you with the option of an additional RS-232 port, RS-485, USB, or Ethernet. The serial expansion ports come with two analog input channels. A user-friendly memory module is available to easily download changes to the controller without the need of a PC. And it's all packaged in a sturdy modular design for easy access and long-term durability. This all-in-one PLC gives you everything you need to control a wide variety of applications.

	IC200UDD064	IC200UDD164	IC200UDR164	IC200UDR064
Product Name	**Micro 64; (40) 24 VDC In, (24) 24 VDC Source Out 0.7 amps with ESCP protection, 24 VDC Powered.**	**Micro 64; (40) 24 VDC In, (24) 24 VDC Sink Out 0.7 amps, 24 VDC Powered.**	**Micro 64; (40) 24 VDC In, (24) Relay Out 2.0 amps, 120/240 VAC Powered.**	**Micro 64; (40) 24 VDC In, (24) Relay Out 2.0 amps, 24 VDC Powered.**
Number of Discrete Inputs/Outputs	40 In / 24 Out (Supports 4 Expansion Units)	40 In / 24 Out (Supports 4 Expansion Units)	40 In / 24 Out (Supports 4 Expansion Units)	40 In / 24 Out (Supports 4 Expansion Units)
Number of Analog Inputs/Outputs	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)	Supports up to 4 analog expansion units (16 analog in/ 8 analog out)
Physical I/O Maximum	176	176	176	176
User Program Logic Memory (Words)	24K	24K	24 K	24 K
Registers (Words)	32 K	32 K	32 K	32 K
Analog Pots for Data Adjustment	No	No	No	No
Serial Port Connector Type	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100 Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100 Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100 Mbit)	RJ-45 (RS-232) port 1 and optional port 2 DB-15 (RS-485) or RJ-45 (RS-232) or USB or RJ-45 (Ethernet 10/100 Mbit)
Protocols	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless), RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless),RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling	Both Ports: SNP, SNP X (Breakless),RTU Master and Slave (2 and 4 wire RTU Slave), SNP Master, Serial Read and Write; Ethernet SRTP, Modbus TCP (server) and Tunneling
Power Voltage	24 VDC	24 VDC	120/240 VAC	24 VDC
Input Power Supply Rating	10 Watts	10 Watts	35 VA	10 Watts
24 VDC User Power for Sensors	435 mA	435 mA	435 mA	435 mA
Input Device Voltage	24 VDC	24 VDC	24 VDC	24 VDC
Maximum Type A and B Counters	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)	4 Type A and 1 Type B @ 100Khz (32 bit)
Output Control Voltage	24 VDC ESCP, Self Healing, No External Fusing Required	24 VDC Sink	Relay Out	Relay Out
Relay Maximum Resistive Load Rating	N/A	N/A	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC
Maximum Number of PWM/Pulse Outputs	4 @ 65Khz (32 bit)	4 @ 65Khz (32 bit)	N/A	N/A
Dimensions (WxHxD) mm	190x90x76	190x90x76	190x90x76	190x90x76
Programming Software	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix
Portable Memory Module Support	Yes	Yes	Yes	Yes

Discrete Expansion Selection Guide

Model	Module Input Power	12 VDC Inputs	12 VDC Outputs	24 VDC Inputs	120 VAC Input	24 VDC Outputs Source	24 VDC Outputs with ESCP	24 VDC Sink Outputs	120 VAC Output	Relay Outputs, 2 Amps	Relay Outputs 10 Amps
IC200UEI08	24 VDC			8 Inputs							
IC200UEI016	24 VDC			16 Inputs							
IC200UEO008	24 VDC						8 Outputs				
IC200UEO016	24 VDC						16 Outputs				
IC200UEO108	24 VDC							8 Outputs			
IC200UEO116	24 VDC							16 Outputs			
IC200UER008	24 VDC									8 Outputs	
IC200UER016	24 VDC									16 Outputs	
IC200UEC008	24 VDC			4 Inputs/ 4 Source Outputs			4 Inputs/ 4 Source Outputs				
IC200UEC108	24 VDC			4 Inputs/ 4 Sink Outputs				4 Inputs/ 4 Sink Outputs			
IC200UEC208	24 VDC			4 Inputs/ 4 Relay Outputs						4 Inputs/ 4 Relay Outputs	
IC200UEX015	12 VDC	8 Inputs/ 6 12 VDC Outputs	8 Inputs/ 6 12 VDC Outputs								
IC200UEX013	12 VDC	8 Inputs/ 6 Relay Outputs								8 Inputs/ 6 Relay Outputs	
IC200UEX014	24 VDC			8 Inputs/ 6 24 VDC Outputs		8 Inputs/ 6 24 VDC Outputs					
IC200UEX122	24 VDC			8 Inputs/ 6 24 VDC Outputs with ESCP			8 Inputs/ 6 24 VDC Outputs with ESCP				
IC200UEX012	24 VDC			8 Inputs/ 6 Relay Outputs						8 Inputs/ 6 Relay Outputs	
IC200UEX011	120/240 VAC			8 Inputs/ 6 Relay Outputs						8 Inputs/ 6 Relay Outputs	
IC200UEX009	120/240 VAC				8 Inputs/ 6 Relay Outputs (4 @ 2 amps and 2 @ 10 amps)					8 Inputs/ 6 Relay Outputs (4 @ 2 amps and 2 @ 10 amps)	8 Inputs/ 6 Relay Outputs (4 @ 2 amps and 2 @ 10 amps)
IC200UEX010	120/240 VAC				8 Inputs/ 6 AC Outputs				8 Inputs/ 6 AC Outputs		
IC200UEX215	12 VDC	16 Inputs/ 12 12 VDC Outputs	16 Inputs/ 12 12 VDC Outputs								
IC200UEX213	12 VDC	16 Inputs/ 12 Relay Outputs								8 Inputs/ 6 Relay Outputs	
IC200UEX214	24 VDC			16 Inputs/ 12 24 VDC Outputs		16 Inputs/ 12 24 VDC Outputs					
IC200UEX222	24 VDC			16 Inputs/ 12 24 VDC Outputs with ESCP			16 Inputs/ 12 24 VDC Outputs with ESCP				
IC200UEX212	24 VDC			16 Inputs/ 12 Relay Outputs						16 Inputs/ 12 Relay Outputs	
IC200UEX211	120/240 VAC			16 Inputs/ 12 Relay Outputs						16 Inputs/ 12 Relay Outputs	
IC200UEX209	120/240 VAC				16 Inputs/ 12 Relay Outputs (10 @ 2 amps and 2 @ 10 amps)					16 Inputs/ 12 Relay Outputs (10 @ 2 amps and 2 @ 10 amps)	16 Inputs/ 12 Relay Outputs (10 @ 2 amps and 2 @ 10 amps)
IC200UEX210	120/240 VAC				16 Inputs/ 12 AC Outputs				16 Inputs/ 12 AC Outputs		
IC200UEX264*	24 VDC			40 Inputs/ 24 24 VDC Outputs			40 Inputs/ 24 24 VDC Outputs				
IC200UEX364*	24 VDC			40 Inputs/ 24 24 VDC Outputs		40 Inputs/ 24 24 VDC Outputs					
IC200UEX064*	24 VDC			40 Inputs/ 24 Relay Outputs						40 Inputs/ 24 Relay Outputs	
IC200UEX164*	120/240 VAC			40 Inputs/ 24 Relay Outputs						40 Inputs/ 24 Relay Outputs	

* Micro 20, 40 and 64 support only.

Discrete Expansion Units

The VersaMax Micro's modular design provides you with remarkable flexibility in a compact control. The versatile Micro PLC can support up to four Expansion Units of any mix of discrete or analog.

	IC200UEI08	IC200UEI016	IC200UEO008	IC200UEO016	IC200UEO108	IC200UEO116
Product Name	**8 point (8) 24 VDC In, 24 VDC Powered**	**16 point (16) 24 VDC In, 24 VDC Powered**	**8 point (8) 24 VDC Output with ESCP Protection, 24 VDC Powered**	**16 point (16) 24 VDC Output with ESCP Protection, 24 VDC Powered**	**8 point (8) 24 VDC Sink Output, 24 VDC Powered**	**16 point (16) 24 VDC Sink Output, 24 VDC Powered**
Micro Type Restrictions	N/A	N/A	N/A	N/A	N/A	N/A
Number of Discrete Inputs/Outputs	8 In	16 In	8 Out	16 Out	8 Out	16 Out
Power Voltage	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC
Input Power Supply Rating	4 Watts	4 Watts	4 Watts	4 Watts	4 Watts	4 Watts
24 VDC User Power for Sensors	200 mA	200 mA	200 mA	200 mA	200 mA	200 mA
Input Device Voltage	24 VDC	24 VDC	N/A	N/A	N/A	N/A
Output Control Voltage	N/A	N/A	24 VDC ESCP, Self Healing, No External Fusing Required	24 VDC ESCP, Self Healing, No External Fusing Required	24 VDC Sink	24 VDC Sink
Relay Maximum Resistive Load Rating	N/A	N/A	N/A	N/A	N/A	N/A
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76	95x90x76	95x90x76	95x90x76

Discrete Expansion Units

The VersaMax Micro's modular design provides you with remarkable flexibility in a compact control. The versatile Micro PLC can support up to four Expansion Units of any mix of discrete or analog.

	IC200UER008	IC200UER016	IC200UEC008	IC200UEC108	IC200UEC208
Product Name	**8 point (8) Relay Out, 24 VDC Powered**	**16 point (16) Relay Out, 24 VDC Powered**	**8 point (4) 24 VDC In, (4) 24 VDC Out with ESCP Protection, 24 VDC Powered**	**8 point (4) 24 VDC In, (4) 24 VDC Sink Out, 24 VDC Powered**	**8 point (4) 24 VDC In, (4) Relay Out, 24 VDC Powered**
Micro Type Restrictions	N/A	N/A	N/A	N/A	N/A
Number of Discrete Inputs/Outputs	8 Out	16 Out	4 In / 4 Out	4 In / 4 Out	4 In / 4 Out
Power Voltage	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC
Input Power Supply Rating	4 Watts	4 Watts	4 Watts	4 Watts	4 Watts
24 VDC User Power for Sensors	200 mA	200 mA	200 mA	200 mA	200 mA
Input Device Voltage	N/A	N/A	24 VDC	24 VDC	24 VDC
Output Control Voltage	Relay Out	Relay Out	24 VDC ESCP, Self Healing, No External Fusing Required	24 VDC Sink	Relay Out
Relay Maximum Resistive Load Rating	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC	N/A	N/A	2 Amps at 24 VDC and 240 VAC
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76	95x90x76	95x90x76

Discrete Expansion Units

The VersaMax Micro's modular design provides you with remarkable flexibility in a compact control. The versatile Micro PLC can support up to four Expansion Units of any mix of discrete or analog.

	IC200UEX015	IC200UEX013	IC200UEX014	IC200UEX122	IC200UEX012	IC200UEX011
Product Name	**14 point (8) 12 VDC In, (6) 12 VDC Out, 12 VDC Powered**	**14 point (8) 12 VDC In, (6) Relay Out, 12 VDC Powered**	**14 point (8) 24 VDC In, (6) 24 VDC Out, 24 VDC Powered**	**14 point (8) 24 VDC In, (6) 24 VDC Out with ESCP, 24 VDC Powered**	**14 point (8) 24 VDC In, (6) Relay Out, 24 VDC Powered**	**14 point (8) 24 VDC In, (6) Relay Out, 120/240 VAC Powered**
Micro Type Restrictions	N/A	N/A	N/A	N/A	N/A	N/A
Number of Discrete Inputs/Outputs	8 In / 6 Out	8 In / 6 Out	8 In / 6 Out	8 In / 6 Out	8 In / 6 Out	8 In / 6 Out
Power Voltage	12 VDC	12 VDC	24 VDC	24 VDC	24 VDC	120/240 VAC
Input Power Supply Rating	4 Watts	4 Watts	4 Watts	4 Watts	4 Watts	13 VA
24 VDC User Power for Sensors	200 mA	200 mA	200 mA	200 mA	200 mA	200 mA
Input Device Voltage	12 VDC	12 VDC	24 VDC	24 VDC	24 VDC	24 VDC
Output Control Voltage	12 VDC	Relay Out	24 VDC	24 VDC ESCP, Self Healing, No External Fusing Required	Relay Out	Relay Out
Relay Maximum Resistive Load Rating	N/A	2 Amps at 24 VDC and 240 VAC	N/A	N/A	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76	95x90x76	95x90x76	95x90x76

Discrete Expansion Units

The VersaMax Micro's modular design provides you with remarkable flexibility in a compact control. The versatile Micro PLC can support up to four Expansion Units of any mix of discrete or analog.

	IC200UEX009	IC200UEX010	IC200UEX215	IC200UEX213	IC200UEX214
Product Name	**14 point (8) 120 VAC In, (6) Relay Out (2 outputs at 10 amp and 4 outputs at 2 amp), 120/240 VAC Powered**	**14 point (8) 120 VAC In, (6) 120 VAC Out, 120/240 VAC Powered**	**28 point (16) 12 VDC In, (12) 12 VDC Out, 12 VDC Powered**	**28 point (16) 12 VDC In, (12) Relay Out, 12 VDC Powered**	**28 point (16) 24 VDC In, (12) 24 VDC Out, 24 VDC Powered**
Micro Type Restrictions	N/A	N/A	N/A	N/A	N/A
Number of Discrete Inputs/Outputs	8 In / 6 Out	8 In / 6 Out	16 In / 12 Out	16 In / 12 Out	16 In / 12 Out
Power Voltage	120/240 VAC	120/240 VAC	12 VDC	12 VDC	24 VDC
Input Power Supply Rating	11 VA	11 VA	8 Watts	8 Watts	5 Watts
24 VDC User Power for Sensors	200 mA	200 mA	200 mA	200 mA	200 mA
Input Device Voltage	120 VAC	120 VAC	12 VDC	12 VDC	24 VDC
Output Control Voltage	Relay Out (2 at 10 Amps and 4 at 2 Amps)	120 VAC	12 VDC	Relay Out	24 VDC
Relay Maximum Resistive Load Rating	2 Amps at 24 VDC and 240 VAC; 10 Amp at 24 VDC and 240 VAC	N/A	N/A	2 Amps at 24 VDC and 240 VAC	N/A
Dimensions (WxHxD) mm	95x90x76	95x90x76	150x90x76	150x90x76	150x90x76

Discrete Expansion Units

The VersaMax Micro's modular design provides you with remarkable flexibility in a compact control. The versatile Micro PLC can support up to four Expansion Units of any mix of discrete or analog.

	IC200UEX222	IC200UEX212	IC200UEX211	IC200UEX209	IC200UEX210
Product Name	**28 point (16) 24 VDC In, (12) 24 VDC Out with ESCP, 24 VDC Powered**	**28 point (16) 24 VDC In, (12) Relay Out, 24 VDC Powered**	**28 point (16) 24 VDC In, (12) Relay Out, 120/240 VAC Powered**	**28 point (16) 120 VAC In, (12) Relay Out (2 outputs at 10 amp and 10 outputs at 2 amp), 120/240 VAC Powered**	**28 point (16) 24 VDC In, (12) 120 VAC Out, 120/240 VAC Powered**
Micro Type Restrictions	N/A	N/A	N/A	N/A	N/A
Number of Discrete Inputs/Outputs	16 In / 12 Out	16 In / 12 Out	16 In / 12 Out	16 In / 12 Out	16 In / 12 Out
Power Voltage	24 VDC	24 VDC	120/240 VAC	120/240 VAC	120/240 VAC
Input Power Supply Rating	5 Watts	8 Watts	26 VA	16 VA	16 VA
24 VDC User Power for Sensors	200 mA	200 mA	200 mA	200 mA	200 mA
Input Device Voltage	24 VDC	24 VDC	24 VDC	120 VAC	120 VAC
Output Control Voltage	24 VDC ESCP, Self Healing, No External Fusing Required	Relay Out	Relay Out	Relay Out (2 at 10 Amps and 10 at 2 Amps)	120 VAC
Relay Maximum Resistive Load Rating	N/A	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC; 10 Amps at 24 VDC and 240 VAC	N/A
Dimensions (WxHxD) mm	150x90x76	150x90x76	150x90x76	150x90x76	150x90x76

Discrete Expansion Units

The VersaMax Micro's modular design provides you with remarkable flexibility in a compact control. The versatile Micro PLC can support up to four Expansion Units of any mix of discrete or analog.

	IC200UEX064	IC200UEX164	IC200UEX264	IC200UEX364
Product Name	**64 point (40) 24 VDC In, (24) Relay Out, 24 VDC Powered**	**64 point (40) 24 VDC In, (24) Relay Out, 120/240 VAC Powered**	**64 point (40) 24 VDC In, (24) 24 VDC Source Out, 24 VDC Powered**	**64 point (40) 24 VDC In, (24) 24 VDC Sink Out, 24 VDC Powered**
Micro Type Restrictions	Micro 20, 40, 64 Support Only	Micro 20, 40, 64 Support Only	Micro 20, 40, 64 Support Only	Micro 20, 40, 64 Support Only
Number of Discrete Inputs/Outputs	40 In / 24 Out	40 In / 24 Out	40 In / 24 Out	40 In / 24 Out
Power Voltage	24 VDC	120/240 VAC	24 VDC	24 VDC
Input Power Supply Rating	10 Watts	35 VA	10 Watts	10 Watts
24 VDC User Power for Sensors	435 mA	435 mA	435 mA	435 mA
Input Device Voltage	24 VDC	24 VDC	24 VDC	24 VDC
Output Control Voltage	Relay Out	Relay Out	24 VDC Sourced	24 VDC Sink
Relay Maximum Resistive Load Rating	2 Amps at 24 VDC and 240 VAC	2 Amps at 24 VDC and 240 VAC	N/A	N/A
Dimensions (WxHxD) mm	190x90x76	190x90x76	190x90x76	190x90x76

Analog Expansion Selection Guide

Model	Module Input Power	Input Range 0 to 10V -10V to +10V 0 to 20mA 4 to 20mA	Input Range RTD Pt 100	Input Range Thermocouple Type K, J, E, S, T, B, N	Input Range millivolt ±50mV ±100mV	Output Range 0-10 VDC 0-20 mA
IC200UEX616	12 VDC	4 in / 2 out				4 in / 2 out
IC200UEX624	24 VDC	4 in				
IC200UEX626	24 VDC	4 in / 2 out				4 in / 2 out
IC200UEX636	120/240 VAC	4 in / 2 out				4 in / 2 out
IC200UEX724	24 VDC		4 in			
IC200UEX726	24 VDC		4 in / 2 out			4 in / 2 out
IC200UEX734	120/240 VAC		4 in			
IC200UEX736	120/240 VAC		4 in / 2 out			4 in / 2 out
IC200UEX824	24 VDC			4 in	4 in	
IC200UEX826	24 VDC			4 in / 2 out	4 in / 2 out	4 in / 2 out

Analog Expansion Units

The VersaMax Micro analog I/O is versatile and the Micro PLC can support up to four Analog Expansion Units, allowing you to expand up to 16 inputs and 8 outputs.

	IC200UEX624	IC200UEX616	IC200UEX626	IC200UEX636
Product Name	**4 Analog I/O Channels 0 to 10VDC, 4 to 20mA, 24 VDC Powered**	**6 Analog I/O Channels (4) 0 to 10 VDC, ±10 VDC, 4 to 20 mA, 0 to 20 mA In, (2) 0 to 10 VDC, 4 to 20 mA, 0 to 20 mA Out, 12 VDC Powered**	**6 Analog I/O Channels (4) 0 to 10 VDC, ±10 VDC, 4 to 20 mA, 0 to 20 mA In, (2) 0 to 10 VDC, 4 to 20 mA, 0 to 20 mA Out, 24 VDC Powered**	**6 Analog I/O Channels (4) 0 to 10 VDC, ±10 VDC, 4 to 20 mA, 0 to 20 mA In, (2) 0 to 10 VDC, 4 to 20 mA, 0 to 20 mA Out, 120/240 VAC Powered**
Micro Type Restrictions	N/A	N/A	N/A	N/A
Number of Analog Inputs/Outputs	4 Channels In, Voltage or Current	4 Channels In/2 Channels Out, Voltage or Current	4 Channels In/2 Channels Out, Voltage or Current	4 Channels In/2 Channels Out, Voltage or Current
Power Voltage	24 VDC	12 VDC	24 VDC	120/240 VAC
Input Power Supply Rating	3 Watts	2.25 Watts	3 Watts	15 VA
24 VDC User Power for Sensors	200 mA	200 mA	200 mA	200 mA
Analog Input Ranges	0-10V (10.23V Max); 0-±10V (±10.23V Max); 0-20 mA (20.47 mA Max); 4-20 mA; 12 bit resolution.	0-10V (10.23V Max); 0-±10V (±10.23V Max); 0-20 mA (20.47 mA Max); 4-20 mA; 12 bit resolution.	0-10V (10.23V Max); 0-±10V (±10.23V Max); 0-20 mA (20.47 mA Max); 4-20 mA; 12 bit resolution.	0-10V (10.23V Max); 0-±10V (±10.23V Max); 0-20 mA (20.47 mA Max); 4-20 mA; 12 bit resolution.
Analog Output Ranges	N/A	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit resolution.	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit resolution.	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit resolution.
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76	95x90x76

Analog Expansion Units

The VersaMax Micro analog I/O is versatile and the Micro PLC can support up to four Analog Expansion Units, allowing you to expand up to 16 inputs and 8 outputs.

	IC200UEX724	IC200UEX734	IC200UEX726	IC200UEX736
Product Name	**4 RTD PT 100 Channels IN, 120/240 VAC Powered**	**4 RTD PT 100 Channels IN, 24 VDC Powered**	**4 RTD PT 100 Channels IN, 2 Analog Channels OUT 0 to 10 VDC, 4 to 20 mA, 0 to 20 mA Out, 24 VDC Powered**	**4 RTD PT 100 Channels IN, 2 Analog Channels OUT 0 to 10 VDC, 4 to 20 mA, 0 to 20 mA Out, 120/240 VAC Powered**
Micro Type Restrictions	16 bit supported on Mircro 20, 40, 64 only	16 bit supported on Mircro 20, 40, 64 only	16 bit supported on Mircro 20, 40, 64 only	16 bit supported on Mircro 20, 40, 64 only
Number of Analog Inputs/Outputs	4 Channels RTD In	4 Channels RTD In	4 Channels RTD In / 2 Channels Out, Voltage or Current	4 Channels RTD In / 2 Channels Out, Voltage or Current
Power Voltage	24 VDC	120/240 VAC	24 VDC	120/240 VAC
Input Power Supply Rating	3 Watts	15 VA	3 Watts	15 VA
24 VDC User Power for Sensors	200 mA	200 mA	200 mA	200 mA
Analog Input Ranges	2- and 3-wire types, PT 100; 16 bit	2- and 3-wire types, PT 100; 16 bit	2- and 3-wire types, PT 100; 16 bit	2- and 3-wire types, PT 100; 16 bit
Analog Output Ranges	N/A	N/A	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit resolution.	0 to 10 VDC (10.24V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit resolution.
Dimensions (WxHxD) mm	95x90x76	95x90x76	95x90x76	95x90x76

Analog Expansion Units

The VersaMax Micro analog I/O is versatile and the Micro PLC can support up to four Analog Expansion Units, allowing you to expand up to 16 inputs and 8 outputs.

	IC200UEX824	IC200UEX826
Product Name	**4 Thermocouple or mV Input Channels, 24 VDC Powered**	**4 Thermocouple or mV Input Channels and 2 Analog Output Channels, 24 VDC Powered**
Micro Type Restrictions	16 bit supported on Micro 20, 40, 64 only	16 bit supported on Micro 20, 40, 64 only
Number of Analog Inputs/Outputs	4 Channels Thermocouple In or ±50mV or ±100mV, 24 VDC Power Supply	4 Channels Thermocouple In or ±50mV or ±100mV and 2 channel analog outputs, 24 VDC Power Supply
Power Voltage	24 VDC	24 VDC
Input Power Supply Rating	3 Watts	3 Watts
24 VDC User Power for Sensors	200 mA	200 mA
Analog Input Ranges	Type K, J, E, S, T, B, N, ±50mV, ±100mV; 12 bit (16 bit 4th QTR 2009)	Type K, J, E, S, T, B, N, ±50mV, ±100mV; 12 bit (16 bit 4th QTR 2009)
Analog Output Ranges	N/A	0 to 10 VDC (10.24 V max.) 0 to 20 mA (20.5 mA max.) 4 to 20 mA (20.5 mA max.); 12 bit resolution.
Dimensions (WxHxD) mm	95x90x76	95x90x76

Micro Motion Expansion Unit

The Micro Motion expansion module is ideal for either Micro integrated motion control or standalone motion control over serial or Ethernet networking. The Micro Motion expansion module is loaded with features and supports a wide range of stepper and servo control. The module supports a powerful function set, with up to 256 move profiles stored on the module. Micro Motion module supports the Portable Memory device (removable Flash device) for easy program storage of the motion moves.

	IC200UMM002	IC200UMM102
Product Name	**VersaMax Micro 2 Axis Motion Module**	**VersaMax Micro 2 Axis Motion Module**
Micro Type Restrictions	Micro 20, 40, 64 Support Only	Micro 20, 40, 64 Support Only
Number of Axis	2	2
Follower Mode	Axis A can follow B or Axis B can follow A within the module only.	Axis A can follow B or Axis B can follow A within the module only.
Motion Control Method	Motion commands can be controlled by Micro 20, 40, 64 or by Modbus Slave interface (RS-232 IC200USB001 or RS-485 IC200USB002) or Ethernet (IC200UEM001)	Motion commands can be controlled by Micro 20, 40, 64 or by Modbus Slave interface (RS-232 IC200USB001 or RS-485 IC200USB002) or Ethernet (IC200UEM001)
Power Voltage	24 VDC	120/240VAC
Input Voltages	line driver (5V) 24 DC	line driver (5V) 24 DC
Output Voltages	5VDC and 24VDC	5VDC and 24VDC
Max Speed	500k Pulse/s	500k Pulse/s
Number of Moves Stored on Unit	256 (non-volatile)	256 (non-volatile)
Move Types	(1) Absolute + Increment method (2) Increment method	(1) Absolute + Increment method (2) Increment method
Position Rollover	Linear, rotation	Linear, rotation
Positioning Command Unit	Pulse, µm, inch, degree, Free-form	Pulse, µm, inch, degree, Free-form
Speed Command Range	6.25 to 500k Pulse/second	6.25 to 500k Pulse/second
Acceleration and Deceleration	Liner Acc/Dec, S-shaped Acc/Dec	Liner Acc/Dec, S-shaped Acc/Dec
Dwell Time	0 to 65535 ms (1 ms unit)	0 to 65535 ms (1 ms unit)
Acc/Dec Rate	1 to 50,000,000 (pulse/s2, µm/s2, inch/s2, degree/s2)	1 to 50,000,000 (pulse/s2, µm/s2, inch/s2, degree/s2)
Backlash Correction	0 to 65,535 (pulses, µm, inch, degree, Free-form)	0 to 65,535 (pulses, µm, inch, degree, degree, Free-form)
Range	Range +2,147,463,647 to –2,147,463,648 pulses	Range +2,147,463,647 to –2,147,463,648 pulses
Pulse Output Type	(1) Pulse column [CW / CCW] (2) Clock + direction signal [CK/direction]	(1) Pulse column [CW / CCW] (2) Clock + direction signal [CK/direction]
Pulse Output Method	Line Driver Output	Line Driver Output
Operating Mode	Auto operation and manual operation	Auto operation and manual operation
Home Function	Free homing Low-speed homing High-speed homing 1 (OFF edge) High-speed homing 2 (marker stop)	Free homing Low-speed homing High-speed homing 1 (OFF edge) High-speed homing 2 (marker stop)
Manual (JOG) operation	Manual input signal or pulse output by command	Manual input signal or pulse output by command
Feedrate Override Function	1 to 100% (Speed scale rate)	1 to 100% (Speed scale rate)
High Speed Input Registration	Differential Input. Supports Windowing	Differential Input. Supports Windowing
Motion Module I/O Assignment	Inputs: A-Channel position data from encoder. (differential) B-Channel position data from encoder. (differential) Z-Channel position data from encoder. (differential) Positioning finish signal from servo driver (COIN) Home limit switch input Common for Digital Inputs Jog Forward Jog Reverse Feedrate Override Estop Drive OK/Ready Outputs: Clockwise Pulse (Pulse) (differential) Counter Clockwise Pulse (Direction) (differential)	Inputs: A-Channel position data from encoder. (differential) B-Channel position data from encoder. (differential) Z-Channel position data from encoder. (differential) Positioning finish signal from servo driver (COIN) Home limit switch input Common for Digital Inputs Jog Forward Jog Reverse Feedrate Override Estop Drive OK/Ready Outputs: Clockwise Pulse (Pulse) (differential) Counter Clockwise Pulse (Direction) (differential)
Portable Memory Module Support	Yes	Yes
I/O Bus Data Assignement	Module requires 8 words in and 8 words out. The module appears as two expansion units. A maximum of two motion modules allowed per controller. If one motion module is in system, 2 additional discrete or analog expansions can be used.	Module requires 8 words in and 8 words out. The module appears as two expansion units. A maximum of two motion modules allowed per controller. If one motion module is in system, 2 additional discrete or analog expansions can be used.
Dimensions (WxHxD) mm	150x90x76	150x90x76

IC200DTX200

IC200DTX450

IC200DTX850

IC200DTX650

DataPanels Operator Interfaces

GE VersaMax DataPanels are ideal for a broad range of applications ranging from simple timer/counter/register access to full text message display with numeric keypad. All VersaMax DataPanels are preprogrammed to connect quickly to a VersaMax Micro or Nano PLC without user configuration.

	IC200DTX200	IC200DTX450	IC200DTX650	IC200DTX850
Product Name	**Operator Interface for changing timer/counter/ register values. 2x16 character LCD backlight display and 6 operation keys. No stored messaging, PLC stores messages. Requires IC200CBL550 cable or equivalent. Operates on 5 VDC @ 100 mA from Micro or Nano.**	**Operator Interface with up to 200 stored messages. 2x16 character LCD backlight display and 6 function keys. Requires IC200CBL555 or equivalent. Operates on external 24 VDC @ 40 mA.**	**Operator Interface with up to 200 stored messages. 4x16 character LCD backlight display and 8 function keys. Requires IC200CBL555 cable or equivalent. Operates on external 24 VDC @ 80 mA.**	**Operator Interface with up to 200 stored messages. 4x20 character LCD backlight display, 8 function keys and numeric keypad. Requires IC200CBL555 cable or equivalent. Operates on external 24 VDC @ 50 mA.**
Characters Per Line	16	16	16	20
Function Keys	0	6	8	8
Numeric Keypad	0	0	0	Yes
Memory Size (Number of Messages)	Messages stored in PLC	200 stored in operator interface	200 stored in operator interface	200 stored in operator interface
DataPanel Dimensions (WxHxD) mm	108x60x27	108x60x45	96x96x44	182x101x37
Number of Lines	2	2	4	4
Display Type	LCD Display with Backlight	LCD Display with Backlight	LCD Display with Backlight	LCD Display with Backlight
Operating Temperature	0°C to +50°C	0°C to +50°C	0°C to +50°C	0°C to +50°C
NEMA Rating	NEMA 4	NEMA 4	NEMA 4	NEMA 4
Programming Software	None required	DataDesigner (IC752DDZ000)	DataDesigner (IC752DDZ000)	DataDesigner (IC752DDZ000)

Micro 20, Micro 40 and Micro 64 Port 2 Communication Options

The VersaMax Micro 20, Micro 40 and Micro 64 Port 2 is modular by design and enables the user to select a wide range of communications options. The user can select RS-232, RS-485, Ethernet or USB. The RS-232 and RS-485 also come with two analog input channels (0 to 10 VDC, 10 bit). Port 2 also supports Memory Module Board that enables the user to download logic and settings without a PC.

	IC200UEM001	IC200USB001	IC200USB002	IC200UUB001
Product Name	**Ethernet module**	**RS-232 option board with (2) 0 -10 VDC analog in**	**RS-485 option board with (2) 0 -10 VDC analog in**	**USB option board (no analog option)**
Micro Type Restrictions	Micro 20, 40, 64 Support Only	Micro 20, 40, 64 Support Only	Micro 20, 40, 64 Support Only	Micro 20, 40, 64 Support Only
Connection Type	10/100Mbits port supporting RJ45 connection	RS-232 (RJ-45)	RS-485 (RJ-45)	USB (Slave Only) version 2.0, Straight B type
Protocol Supported	SRTP and Modbus TCP (server)	SNP, SNP Master, SNP X, Modbus Master, Modbus Slave, Serial Read and Write	SNP, SNP Master, SNP X, Modbus Master, Modbus Slave, Serial Read and Write	SNP, SNP X, Modbus Slave, Serial Read
Analog Support on Communications Module	No Analog Support	Two Analog Inputs. 0 to 10 VDC (10 bits)	Two Analog Inputs. 0 to 10 VDC (10 bits)	No Analog Support
Memory Module Board Support	Yes	Yes	Yes	Yes
Programming Support	Yes, SRTP only	Yes	Yes	Yes
Programming Software	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix	Proficy Machine Edition Logic Developer 5.0, Service Pack 3, Hotfix

Ethernet Communication Option

The VersaMax SE enables the VersaMax Micro and Nano to easily be connected to an Ethernet LAN via the VersaMax SE. The user can easily down load, upload and monitor VersaMax Micro and Nano controllers.

	IC200SET001
Product Name	**Ethernet to Serial Network Module**
Ethernet Port	10/100Mbits port supporting RJ45 connection
Serial Port	One RS-232 and one RS-485 port (up to 16 devices supported)
Communications Configurations	Communication configurations include Ethernet SRTP to SNP or Modbus TCP to Modbus Slave
Power Voltage	12/24 VDC
Dimensions (WxHxD) mm	36x90x60
Programming Software	VersaPro 2.0 or greater, Proficy Machine Edition Logic Developer
Mounting	35 mm DIN-Rail or Panel Mount
Power Supply Voltage Range	12/24 VDC

Portable Program Download Device (PPDD)

The Portable Program Download Device enables the user to easily upload and download VersaMax Micro 23/28 configuration and logic from/to a USB Memory Stick. Portable Program Download Device (PPDD) will support commercial memory stick devices using USB connection. The purpose of the PPDD is to allow users to store and download their logic applications and configuration to GE VersaMax Micro 23/28 PLCs without the need of a PC. The PPDD plugs into the 15 pin RS-485 port on the VersaMax Micro 23/28 CPU base power supply. The RS-485 port provides the power for the PPDD. VersaMax Micro 23/28 logic and configuration files can be zipped and easily emailed to remote locations for VersaMax Micro 23/28 downloads.

There are many advantages of the PPDD such as:

- No PC required to backup applications or download applications
- No expensive travel to perform field upgrades, just email the file to the remote location
- Compatible with commercial off the shelf USB Memory Sticks
- The PPDD can be panel mounted, DIN rail mounted or hand held
- Supports diagnostics to ensure that the CPU is compatible with the application
- OEM Password Protection supported
- Simple to operate, LEDs to show activity, error and status. Push button to start download and selector switch for direction of download, to the PLC or to the memory stick.
- Designed for the industrial environment UL and CE (not Class 1 Div 2 approved)

PPDD features:

- Slide switch for direction of data storage
- Status and Diagnostic LEDs

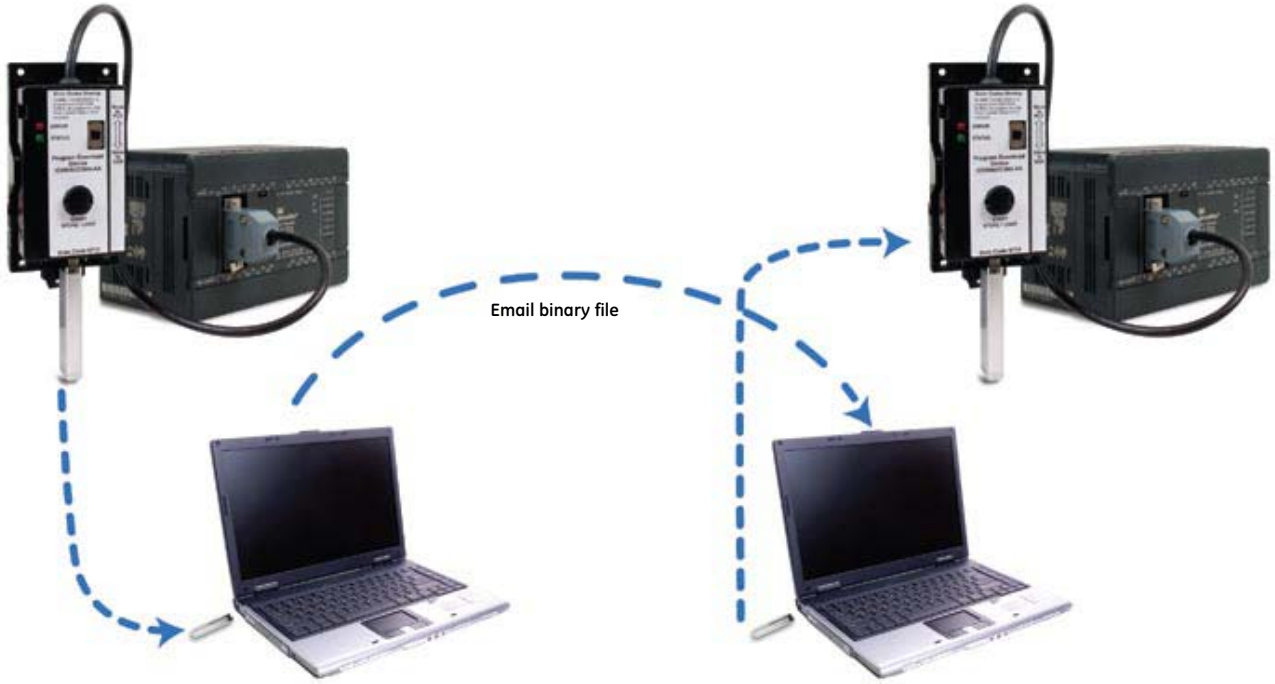
LEDs Status

	Error (Red)	Status (Green)
LED On Steady	On when there isn't a Memory Stick attached	On after button has been pushed and name in PLC matches and when download is complete
LED Flashing Fast Flash (500msec on 500msec off) Slow Flash (1 sec on 1 sec off)	Flashing when CPU doesn't match or Memory Stick doesn't have the proper file Flashing if Verify fails	Slow Flash During Download Fast Flash when CPU type matches but name in PLC doesn't match
LED Off	Off during normal conditions with no errors	Off prior to button being pushed for download

The Portable Program Download Device is simple to use. The example below demonstrates the four easy steps of downloading an application and emailing it to a remote location for application upgrade.

Step 1.
Slide PPDD selector toward USB memory stick. Press PPDD download button. The PPDD will store/verify the VersaMax Micro application and configuration onto the USB memory stick.

Step 4.
Place the USB memory stick in the PPDD, slide selector toward controller. Press PPDD download button. The PPDD will stop the CPU and download/verify file. The CPU can be placed in the Run mode via the key switch or cycling power.



Step 2.
Remove the memory stick from the PPDD and connect it to your PC. Copy the binary file from the memory stick to your PC and email to remote location.

Step 3.
Remote location takes the binary file that is in the email and stores it on a USB memory stick.

Portable Program Download Device

IC690ACC990	Portable Program Download Device. Supports standard USB memory devices to store and load VersaMax Micro 23/28 PLC applications without the need of a PC.

Accessories

IC200ACC402	Spare Removable Terminal Strips, 10 per pack. (Micro 14, Micro 23 and Micro 28 and all expansion units)
IC200ACC403	Battery for Micro 23 and Micro 28 for data retention (5.2 months minimum @ 70°C and 32.4 months minimum @ 20°C)
IC200ACC404	Spare parts kit. Two terminal strips and four plastic doors and four covers for Micro 14, Micro 23 and Micro 28.
IC200ACC414	Long Term Battery for Micro 23, Micro 28 and Micro 64 (19 months minimum @ 70°C and 121 months minimum @ 20°C)
IC200ACC415	RS-232 to RS-485 Converter requires IC200CBL500 or equivalent.
IC200ACC450	Simulator for VersaMax Nano 10. (6 Inputs)
IC200ACC451	Simulator for VersaMax Micro 14, Micro 23 and Micro 28. (8 Inputs)
IC200UMB001	Flash Memory Board for program download and compatible with Micro 64 (128Kbytes)

External Power Supplies

IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
IC690PWR124	24 VDC, 10 Amp Output Power and 120/230 VAC Input Power Power Supply

Stepper Controller, Motors and Cables

(More Information in Motion Solutions Catalog GFA-483)

IC800PCUB00300	Stepping Motor Power Amplifier, 12-48 VDC, 4 Amp
IC800CUBDB15ADP	Motor Cube or Power Cube DB15 to screw terminal connector adaptor
IC800PCUBDINMTG	Power Cube DIN Rail Mounting Adaptor.
MTR-1216-N-D-E-0	Stepping Motor Nema23, Series Wdg. Holding Torque 61 oz-in/0.43 Nano meters
MTR-1220-N-D-E-0	Stepping Motor Nema23, Series Wdg. Holding Torque 116 oz-in/0.82 Nano meters
MTR-1221-N-D-E-0	Stepping Motor Nema23, Series Wdg. Holding Torque 124 oz-in/0.87 Nano meters
MTR-1231-N-D-E-0	Stepping Motor Nema23, Series Wdg. Holding Torque 236 oz-in/1.68 Nano meters
MTR-1235-N-D-E-0	Stepping Motor Nema23, Series Wdg. Holding Torque 185 oz-in/1.31 Nano meters
MTR-1331-J-N-D-E-0	Stepping Motor Nema34, Series Wdg. Holding Torque 327 oz-in/2.31 Nano meters
MTR-1N31-I-N-D-S-0	Stepping Motor Nema34, Series Wdg. Holding Torque 605 oz-in/4.27 Nano meters
CBL-12-MP-10	Power Cable, MTR-1216, 1221, or 1231 Stepping Motor, 10 Ft.
CBL-12-MP-20	Power Cable, MTR-1216, 1221, or 1231 Stepping Motor, 20 Ft.
CBL-12-MP-30	Power Cable, MTR-1216, 1221, or 1231 Stepping Motor, 30 Ft.
CBL-13-MP-10	Power Cable, MTR-1220, MTR-1235, MTR-13xx, MTR-14xx & MTR-1Nxx Series Stepping Motors, 10 Ft.
CBL-13-MP-20	Power Cable, MTR-1220, MTR-1235, MTR-13xx, MTR-14xx & MTR-1Nxx Series Stepping Motors, 20 Ft.
CBL-13-MP-30	Power Cable, MTR-1220, MTR-1235, MTR-13xx, MTR-14xx & MTR-1Nxx Series Stepping Motors, 30 Ft.
IC800PCUBC02S030	Power Cube Flying Lead I/O Interface Cable, 200 Steps/Rev & Power Save Enabled, 3 Meters
IC800PCUBC02S050	Power Cube Flying Lead Interface I/O Cable, 200 Steps/Rev & Power Save Enabled, 5 Meters
IC800PCUBC04S030	Power Cube Flying Lead Interface I/O Cable, 400 Steps/Rev & Power Save Enabled, 3 Meters
IC800PCUBC04S050	Power Cube Flying Lead Interface I/O Cable, 400 Steps/Rev & Power Save Enabled, 5 Meters
IC800PCUBC10S030	Power Cube Flying Lead Interface I/O Cable, 1000 Steps/Rev & Power Save Enabled, 3 Meters
IC800PCUBC10S050	Power Cube Flying Lead Interface I/O Cable, 1000 Steps/Rev & Power Save Enabled, 5 Meters

Programming and Trouble Shooting Tools

IC646MPM101	Proficy Logic Developer - PLC Nano/Micro, Programming Cable (No Upgrades included)
BC646MPM101	Proficy Logic Developer - PLC Nano/Micro, Programming Cable included and Proficy GlobalCare Complete (Upgrades included for 15 months of upgrades)
IC646MPH101	Logic Developer PDA Single License with Adapters . With Logic Developer PDA, you can monitor/change data, view diagnostics, force ON/OFF, and configure machine setup — saving you time and increasing productivity.
IC752DDZ000	VersaMax DP Operator Interface DataDesigner editor

Cables

(0.1 meter cable, IC200CBL501, is included in every expansion base package)

IC200CBL500	Programming cable (RJ-45 to DB-9 pin) RS-232. 3 Meters.
IC200CBL501	I/O Expansion cable, 0.1 meter long (Qty 5)
IC200CBL505	I/O Expansion cable, 0.5 meter long
IC200CBL510	I/O Expansion cable, 1 meter long

Starter Kits

IC200TBX010	Tool box, Nano 10 and software. Includes (IC200NDR001) 24 VDC In/Relay Out, 24 VDC powered (requires an external 24 VDC Supply) with software, manuals and cables (IC646MPH101)
IC200TBX110	Tool box, Nano 10, operator interface and software. Includes (IC200NDR001) 24 VDC In/Relay Out, 24 VDC powered (requires an external 24 VDC Supply), VersaMax DataPanel DP45 with programming software and cables, (IC640VPS00, IC752DDZ000, IC200CBL555)
IC200TBX210	Tool box, Nano 10, Ethernet interface and software. Includes (IC200NDR001) 24 VDC In/Relay Out, 24 VDC powered (requires an external 24 VDC Supply), VersaMax SE (IC200SET001) with all software, cables (IC646MPH101) and manuals.
IC200TBX014	Tool box, Micro 14 and software. Includes (IC200UDR001) 24 VDC In/Relay Out, AC Power Supply with software, manuals and cables (IC646MPH101)
IC200TBX114	Tool box, Micro 14, operator interface and software. Includes (IC200UDR001) 24 VDC In/Relay Out, AC Power Supply, VersaMax DataPanel DP45 with programming software and cables, (IC640VPS00, IC752DDZ000, IC200CBL555)
IC200TBX214	Tool box, Micro 14, Ethernet interface and software. Includes (IC200UDR001) 24 VDC In/Relay Out, requires 120 VAC power, VersaMax SE (IC200SET001) with all software, cables (IC646MPH101) and manuals.
IC200TBX023	Tool box, Micro 23 and software. Includes (IC200UAL006) DC In/Relay Out, 2 analog In, 1 analog out, AC Power Supply with software, manuals and cables (IC646MPH101)
IC200TBX123	Tool box, Micro 23, operator interface and software. Includes (IC200UAL006) 24 VDC In/Relay Out, 2 Analog In/1 Analog out, AC P/S, VersaMax DataPanel DP45 with programming software and cables, (IC640VPS00, IC752DDZ000, IC200CBL555)
IC200TBX223	Tool box, Micro 23, Ethernet interface and software. Includes (IC200UAL006) 24 VDC In/Relay Out, requires 120 VAC Power, VersaMax SE (IC200SET001) with all software, cables (IC646MPH101) and manuals.
IC200TBX028	Tool box, Micro 28 and software. Includes (IC200UDR005) 24 VDC In/Relay Out, AC Power Supply with software, manuals and cables (IC646MPH101)
IC200TBX128	Tool box, Micro 28, operator interface and software. Includes (IC200UDR005) 24 VDC In/Relay Out, AC P/S, VersaMax DataPanel DP45 with programming software and cables, (IC640VPS00, IC752DDZ000, IC200CBL555)
IC200TBX228	Tool box, Micro 28, Ethernet interface and software. Includes (IC200UDR005) 24 VDC In/Relay Out, requires 120 VAC Power, VersaMax SE (IC200SET001) with all software, cables (IC646MPH101) and manuals.
IC200TBX020	Tool box, Micro 20 and software. Includes (IC200UDD020) 24VDC In/24VDC Out, DC Power Supply, (IC200USB001) RS-232 option board with(2) 0 -10VDC analog in with Proficy software, manuals and cables (IC646MPM101)
IC200TBX120	Tool box, Micro 20 and software. Includes (IC200UDR120) 24VDC In/Relay Out, AC Power Supply, (IC200USB001) RS-232 option board with (2)0 -10VDC analog in with Proficy software, manuals and cables (IC646MPM101)
IC200TBX220	Tool box, Micro 20, operator interface and software. Includes (IC200UDD020) 24VDC In/24VDC Out, DC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10VDC analog in with VersaMax DataPanel DP45 with Proficy programming software and cables, (IC646MPM101,IC752DDZ000, IC200CBL555)
IC200TBX320	Tool box, Micro 20, operator interface and software. Includes (IC200UDR120) 24VDC In/Relay Out, AC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10VDC analog in with VersaMax DataPanel DP45 with Proficy Logic Developer programming software and cables, (IC646MPM101, IC752DDZ000, IC200CBL555)
IC200TBX420	Tool box, Micro 20, stepper motor, Power Cube amplifier and software. Includes (IC200UDD064) 24VDC In/24VDC Out, DC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10VDC analog in, stepping motor amplifier (IC800PCUB00300), stepping motor (MTR-1216-N-D-E-0), stepper cable (CBL-12-MP-10), Power Cube Flying Lead interface cable (IC800PCUBC02S030) with Proficy software, manuals and cables (IC646MPM101)
IC200TBX520	Tool box, Micro 20, QuickPanel color touch screen and software. Includes (IC200UDR164) 24VDC In/Relay Out, AC Power Supply, (IC200UEM001) Ethernet option board, QuickPanel Display (IC754VSI06STD) with Proficy software, manuals and cables (BC646MBL001)
IC200TBX040	Tool box, Micro 40 and software. Includes (IC200UDD040) 24VDC In/24VDC Out, DC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10VDC analog in with Proficy software, manuals and cables (IC646MPM101)
IC200TBX140	Tool box, Micro 40 and software. Includes (IC200UDR140) 24VDC In/Relay Out, AC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10VDC analog in with Proficy software, manuals and cables (IC646MPM101)
IC200TBX240	Tool box, Micro 40, operator interface and software. Includes (IC200UDD040) 24VDC In/24VDC Out, DC Power Supply, (IC200USB001) RS-232option board with (2) 0 -10VDC analog in with VersaMax DataPanel DP45 with Proficy programming software and cables, (IC646MPM101,IC752DDZ000, IC200CBL555)
IC200TBX340	Tool box, Micro 40, operator interface and software. Includes (IC200UDR140) 24VDC In/Relay Out, AC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10VDC analog in with VersaMax DataPanel DP45 with Proficy Logic Developer programming software and cables,(IC646MPM101, IC752DDZ000, IC200CBL555)
IC200TBX440	Tool box, Micro 40, stepper motor, Power Cube amplifier and software. Includes (IC200UDD040) 24VDC In/24VDC Out, DC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10VDC analog in, stepping motor amplifier (IC800PCUB00300), stepping motor (MTR-1216-N-D-E-0), stepper cable (CBL-12-MP-10), Power Cube Flying Lead interface cable (IC800PCUBC02S030) with Proficy software, manuals and cables (IC646MPM101)
IC200TBX540	Tool box, Micro 40, QuickPanel color touch screen and software. Includes (IC200UDR140) 24VDC In/Relay Out, AC Power Supply, (IC200UEM001) Ethernet option board, QuickPanel Display (IC754VSI06STD) with Proficy software, manuals and cables (BC646MBL001)
IC200TBX064	Tool box, Micro 64 and software. Includes (IC200UDD064) 24 VDC In/24 VDC Out, DC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10 VDC analog in with Proficy software, manuals and cables (IC646MPM101)
IC200TBX164	Tool box, Micro 64 and software. Includes (IC200UDR164) 24 VDC In/Relay Out, AC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10 VDC analog in with Proficy software, manuals and cables (IC646MPM101)
IC200TBX264	Tool box, Micro 64, operator interface and software. Includes (IC200UDD064) 24 VDC In/24 VDC Out, DC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10 VDC analog in with VersaMax DataPanel DP45 with Proficy programming software and cables, (IC646MPM101, IC752DDZ000, IC200CBL555)
IC200TBX364	Tool box, Micro 64, operator interface and software. Includes (IC200UDR164) 24 VDC In/Relay Out, AC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10 VDC analog in with VersaMax DataPanel DP45 with Proficy Logic Developer programming software and cables, (IC646MPM101, IC752DDZ000, IC200CBL555)
IC200TBX464	Tool box, Micro 64, stepper motor, Power Cube amplifier and software. Includes (IC200UDD064) 24 VDC In/24 VDC Out, DC Power Supply, (IC200USB001) RS-232 option board with (2) 0 -10 VDC analog in, stepping motor amplifier (IC800PCUB00300), stepping motor (MTR-1216-N-D-E-0), stepper cable (CBL-12-MP-10), Power Cube Flying Lead interface cable (IC800PCUBC02S030) with Proficy software, manuals and cables (IC646MPM101)
IC200TBX564	Tool box, Micro 64, QuickPanel color touch screen and software. Includes (IC200UDR164) 24 VDC In/Relay Out, AC Power Supply, (IC200UEM001) Ethernet option board, QuickPanel Display (IC754VSI06STD) with Proficy software, manuals and cables (BC646MBL001)

Configuration Guidelines

Examples of Typical Application

Configuration for Nano 10 (Applications needing less than 6 (24 VDC) inputs and 4 relay outputs)

	Qty	Part Number	Description
	1	IC200NDR001	10 point (6) 24 VDC In, (4) Relay Out, 24 VDC Powered
	1	BC646MPM101	Proficy Logic Developer - PLC Nano/Micro, Programming Cable included and Proficy GlobalCare Complete (Upgrades included for 15 months of upgrades)
Options to consider			
	1	IC646MPH101	Logic Developer PDA Single License with Adapters. With Logic Developer PDA, you can monitor/change data, view diagnostics, force ON/OFF, and configure machine setup — saving you time and increasing productivity.
	1	IC200ACC450	Simulator for VersaMax Nano 10. (6 Inputs)
	1	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply

Configuration for Micro 14 (Example Application needing 12 (24 VDC) discrete inputs, 6 relay outputs and 3 Analog inputs with 24 VDC power)

	Qty	Part Number	Description
	1	IC200UDR002	14 point (8) 24 VDC In, (6) Relay Out, 24 VDC Powered
	1	IC200UEI008	8 point 24 VDC In, 24 VDC Powered
	1	IC200UEX626	6 Analog I/O Channels (4) 0 to 10 VDC, ±10 VDC, 4 to 20 mA, 0 to 20 mA In, (2) 0 to 10 VDC, 4 to 20 mA, 0 to 20 mA Out, 24 VDC Powered
	1	BC646MPM101	Proficy Logic Developer - PLC Nano/Micro, Programming Cable included and Proficy GlobalCare Complete (Upgrades included for 15 months of upgrades)
Options to consider			
	1	IC200UDR010	28 point (16) 24 VDC In, (12) Relay Out, 24 VDC Powered - advantage is two serial ports, Real Time clock and more data memory.
	1	IC646MPH101	Logic Developer PDA Single License with Adapters. With Logic Developer PDA, you can monitor/change data, view diagnostics, force ON/OFF, and configure machine setup — saving you time and increasing productivity.
	1	IC200ACC451	Simulator for VersaMax Micro 14, Micro 23 and Micro 28. (8 Inputs)
	1	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
	1	IC200DTX650	Operator Interface with up to 200 stored messages. 4x16 character LCD backlight display and 8 function keys. Requires IC200CBL550 cable or equivalent. Operates on external 24 VDC @ 80 mA.

Configuration for Micro 28 (Example Application needing 22 (24 VDC) discrete inputs, 16 outputs [Ten Relay and Six 24 VDC], 2 RTD inputs, 1 Analog output using AC power. Also requires Display with keypad)

	Qty	Part Number	Description
	1	IC200UDR005	28 point; (16) 24 VDC In, (11) Relay Out, (1) 24 VDC Out, 120/240 VAC Powered.
	1	IC200ACC403	Battery for Micro 23 and Micro 28 for data retention
	1	IC200UEX014	14 point (8) 24 VDC In, (6) 24 VDC Out, 24 VDC Powered
	1	IC200UEX736	4 RTD PT 100 Channels IN, 2 Analog Channels OUT 0 to 10 VDC, 4 to 20 mA, 0 to 20 mA Out, 120/240 VAC Powered
	1	BC646MPM101	Proficy Logic Developer - PLC Nano/Micro, Programming Cable included and Proficy GlobalCare Complete (Upgrades included for 15 months of upgrades)
	1	IC200DTX850	Operator Interface with up to 200 stored messages. 4x20 character LCD backlight display, 8 function keys and numeric keypad. Requires IC200CBL550 cable or equivalent. Operates on external 24 VDC @ 50 mA.
	1	IC752DDZ000	VersaMax DP Operator Interface DataDesigner editor
Options to consider			
	1	IC646MPH101	Logic Developer PDA Single License with Adapters. With Logic Developer PDA, you can monitor/change data, view diagnostics, force ON/OFF, and configure machine setup — saving you time and increasing productivity.
	1	IC200ACC451	Simulator for VersaMax Micro 14, Micro 23 and Micro 28. (8 Inputs)
	1	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply

Configuration for Micro 64 (Example Application needing 45 (24 VDC) discrete inputs, 32 outputs (Twelve Relay and Twenty 24 VDC), 3 Stepper motors (Nema 23, Holding Torque 124 oz-in/0.87 Nano meters) 2 100Khz Encoders. Application also requires Color Touch Graphic Display)

	Qty	Part Number	Description
	1	IC200UDD064	Micro 64; (40) 24 VDC In, (24) 24 VDC Source Out 0.7 amps with ESCP protection, 24 VDC Powered.
	1	IC200ACC414	Long Term Battery for Micro 23, Micro 28 and Micro 64
	1	IC200UEX211	28 point (16) 24 VDC In, (12) Relay Out, 120/240 VAC Powered
	1	IC200USB001	RS-232 option board with (2) 0 -10 VDC analog in
	3	IC800PCUB00300	Stepping Motor Power Amplifier, 12-48 VDC, 4 Amp
	3	IC800CUBDB15ADP	Motor Cube or Power Cube DB15 to screw terminal connector adaptor
	3	MTR-1221-N-D-E-0	Stepping Motor Nema23, Series Wdg. Holding Torque 124 oz-in/0.87 Nano meters
	3	CBL-12-MP-10	Power Cable, MTR-1216, 1221, or 1231 Stepping Motor, 10 Ft.
	3	IC800PCUBC10S050	Power Cube Flying Lead I/O Interface Cable, 1000 Steps/Rev & Power Save Enabled, 5 Meters
	1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch DC
	1	BC646MBL001	Machine Edition Lite Development Suite with Proficy GlobalCare Complete. Includes View Development for QuickPanel and LD-PLC Nano/Micro with 15 mos. of Proficy GlobalCare which is renewable on an annual basis.
	1	IC200CBL500	Programming cable (RJ-45 to DB-9 pin) RS-232. 3 Meters.
Options to consider			
	1	IC646MPH101	Logic Developer PDA Single License with Adapters . With Logic Developer PDA, you can monitor/change data, view diagnostics, force ON/OFF, and configure machine setup — saving you time and increasing productivity.
	1	IC200UMB001	Flash Memory Board for program download and compatible with Micro 64 (128Kbytes)
	1	IC690PWR124	24 VDC, 10 Amp Output Power and 120/230 VAC Input Power Power Supply

VersaMotion

VersaMotion is a family of servo motors and amplifiers. The VersaMotion amplifier supports high speed pulse and direction commands from the controllers. The VersaMotion servo drive is simple to use and maintain with the added diagnostics and removable terminal strips. Amplifier setup can be accomplished using the VersaMotion software included with Proficy Machine Edition or using the convenient front panel keypad.

Key Features:

- Versatile analog or pulse command interface
- Position/Speed/Torque modes
- Dual control modes
- Internal single-axis position control
- Electronic gearing
- External JOG function
- Speed/Torque limit operation
- Built-in keypad/display for setup and diagnostics
- Motor settling time below 1 ms
- Low speed stability and performance: less than 0.5% error at 1 RPM
- 10msec acceleration time from running without load -/+ 3000 RPM
- High speed inertia corrections (16 levels of system stiffness and responsiveness)

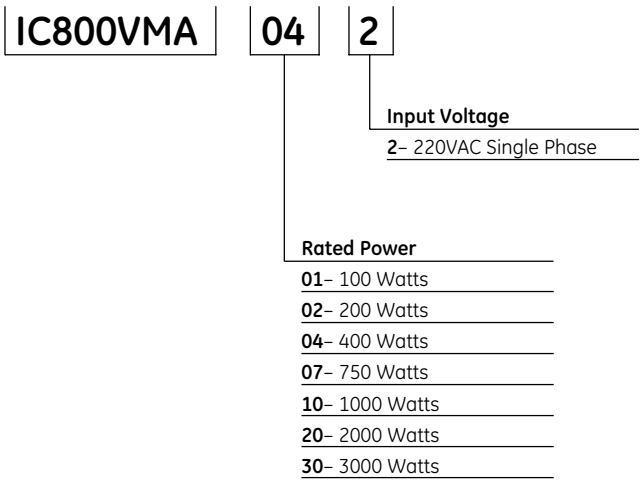
Built-in Functions:

- Point-to-Point single axis position control
- Simple stand-alone positioning function with 8 internal stored position settings
- Move to Home function
- Position Teaching capability
- Incremental encoder feedback (2500 ppr)
- User-definable Acceleration/Deceleration with jerk limiting (s-curve)
- Feed step control function
- Modbus Slave serial port (RS-485/RS-422) for reading and writing parameters from Machine Edition

Machine Edition VersaMotion Set-up Features:

- Configuration Parameter Editor (clear, read, write functions) and initial configuration wizard
- Calculation tools to determine proper conversion from encoder counts to desired user programming units
- Three channel digital oscilloscope to display and record drive status on-line
- Alarm history and status monitor diagnostic screens
- Digital I/O set-up and monitoring

Servo Amplifier Part Number Sequence



Example: IC800VMA042 is a 400 watt 220VAC servo amplifier

Amplifiers Technical Data

Permissible Frequency Fluctuation	50 / 60 Hz +/-5%
Resolution/Quadrature Feedback Counts	2500 ppr /10000 cpr
Control Modes	Position/Velocity/Torque
Dynamic Brake	Built-in
Position Control Mode:	
Maximum Input Pulse Frequency	500KPPS (Line Driver) / Maximum 200KPPS (Open Collector)
Pulse Type	Pulse/Direction; CW/CCW; A/B Phase
Command Source	External pulse train/ Internal parameters
Torque Limit Operation	Yes
Feed Forward Compensation	Yes
Analog Commands: Voltage Range	0 to +/-10VDC
Torque and Velocity Control Mode: Command Source	External analog signal / Internal parameters
Speed Control Range	1:5000
Speed Control Frequency Response	Maximum 450 Hz
Torque Control Mode Permissible Time for Overload	8 seconds under 200% rated output
Communications Interface	RS-232 / RS-485 /RS-422
Environmental Altitude	Altitude 1000 meters above sea level or lower
Environmental Operating Temperature	0 to 55°C (Forced cooling for operation above 55°C)
Environmental Storage Temperature	-20°C to 65°C
Environmental Humidity	0 to 90% (Non condensing)
Vibration	<20 Hz: 9.8 m/sec/sec (1G); 20 to 50 Hz: 5.88 m/sec/sec (0.6 G)
Standards	IEC/EN 61800-5-1, UL 508C, TUV, C-tick

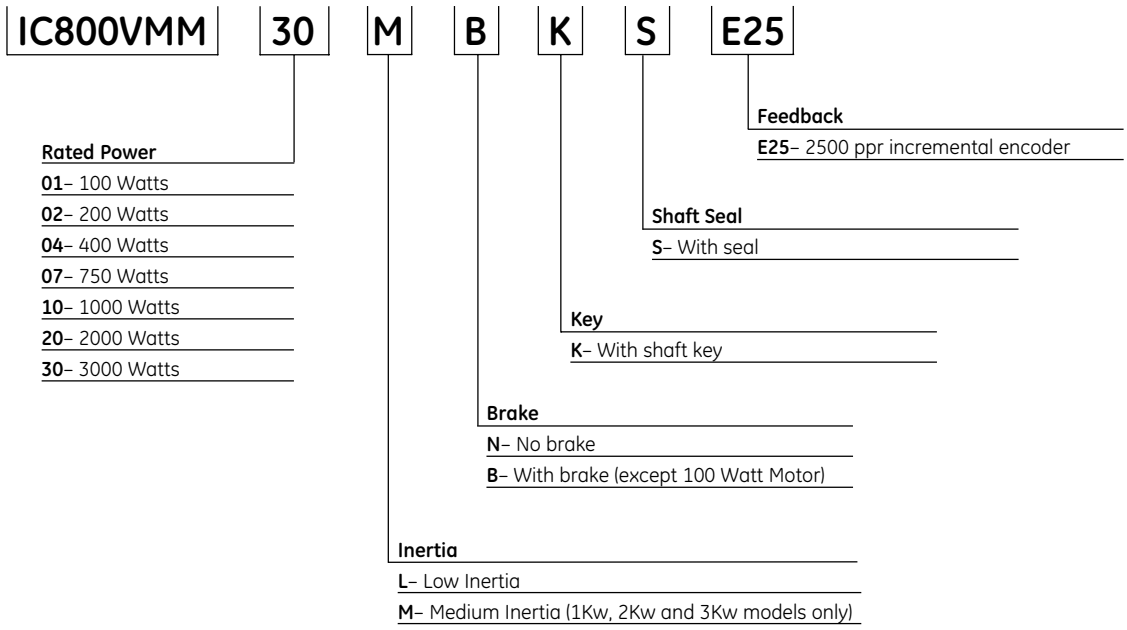
Amplifiers

The VersaMotion family of servo amplifiers offers a cost effective solution for a broad range of motion applications. These versatile amplifiers support simple stand-alone positioning capability using up to 8 stored motion profiles or can be connected to any motion controller using an analog or pulse command interface. A built-in touchpad and display provides convenient access to configuration parameters and system information. The serial interface supports multi-drop system configurations and Modbus communication protocol.

	IC800VMA012	IC800VMA022	IC800VMA042	IC800VMA072
Product Name	**VersaMotion Amplifier**	**VersaMotion Amplifier**	**VersaMotion Amplifier**	**VersaMotion Amplifier**
Rated Output Power	100W	200W	400W	750W
Voltage/Frequency	Three-phase or Single-phase 220VAC 50/60 Hz	Three-phase or Single-phase 220VAC 50/60 Hz	Three-phase or Single-phase 220VAC 50/60 Hz	Three-phase or Single-phase 220VAC 50/60 Hz
Permissible Voltage Fluctuation	Three-phase: 170 ~ 255VAC Single-phase: 200 ~ 255VAC	Three-phase: 170 ~ 255VAC Single-phase: 200 ~ 255VAC	Three-phase: 170 ~ 255VAC Single-phase: 200 ~ 255VAC	Three-phase: 170 ~ 255VAC Single-phase: 200 ~ 255VAC
Cooling System	Convection	Convection	Convection	Fan Cooling
Electronic Gear Ratio	Gear Ratio = N/M where N 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)

	IC800VMA102	IC800VMA202	IC800VMA302
Product Name	**VersaMotion Amplifier**	**VersaMotion Amplifier**	**VersaMotion Amplifier**
Rated Output Power	1KW	2KW	3KW
Voltage/Frequency	Three-phase or Single-phase 220VAC 50/60 Hz	Three-phase 220VAC 50/60 Hz	Three-phase 220VAC 50/60 Hz
Permissible Voltage Fluctuation	Three-phase: 170 ~ 255VAC Single-phase: 200 ~ 255VAC	Three-phase: 170 ~ 255VAC	Three-phase: 170 ~ 255VAC
Cooling System	Fan Cooling	Fan Cooling	Fan Cooling
Electronic Gear Ratio	Gear Ratio = N/M where N 1~32767, M: 1:32767 (1/50<N/M<200)	Gear Ratio = N/M where N: 1~32767, M: 1:32767 (1/50<N/M<200)	Electronic gear N/M multiple N: 1~32767, M: 1:32767 (1/50<N/M<200)

Servo Motor Part Number Sequence



Example: IC800VMM30MBKSE25 is a 3000 watt medium Inertia motor with 2500 ppr encoder, brake, keyway and shaft seal.

Motors Technical Data

Insulation Class	Class B
Insulation Resistance	>100M ohm, 500 VDC
Insulation Strength	1500 VAC, 50Hz, 60 seconds
Vibration Grade (um)	15
Brake Power (VDC)	24
Operating Temperature (C)	0°~40°
Storage Temperature (C)	-10°~80°
Humidity	20~90%RH (non condensing)
Vibration	2.5G
IP Rating	IP65 (except shaft and connector)

Motors

The VersaMotion family of servo motors offers high servo performance in a compact package. The motors range from 100 W to 3 kW with continuous torque ratings from 0.3 Nm to 14.3 Nm. All motors have metric mounting configurations and include a shaft key and oil seal. For vertical axes or applications that need to hold position during power loss motors with 24 VDC holding brakes are available. Motors are matched with the VersaMotion amplifiers.

	IC800VMM01L	IC800VMM02L	IC800VMM04L	IC800VMM07L
Product Name	**VersaMotion 100 Watt**	**VersaMotion 200 Watt**	**VersaMotion 400 Watt**	**VersaMotion 750 Watt**
Rated Output (kW)	0.1	0.2	0.4	0.75
Rated Torque (Nm)	0.32	0.64	1.27	2.39
Maximum Torque (Nm)	0.96	1.92	3.82	7.16
Rated Speed (RPM)	3000	3000	3000	3000
Maximum Speed (RPM)	5000	5000	5000	5000
Rated Current (Amps)	0.9	1.55	2.6	5.1
Maximum Current (Amps)	2.7	4.65	7.8	15.3
Rotor Moment of Inertia ($Kg.m^2 \times 10^{-4}$)	0.037	0.177	0.277	1.13
Mechanical Time Constant (msec)	0.75	0.8	0.53	0.63
Torque Constant - KT (Nm)	0.36	0.41	0.49	0.47
Voltage Constant - KE (mV/rmp)	13.6	16	17.4	17.2
Armature Resistance (Ohm)	9.3	2.79	1.55	0.42
Armature Inductance (mH)	24	10.84	6.84	3.53
Electrical Time Constant (msec)	2.58	3.89	4.43	8.37
Maximum Radial Shaft Load (Newton)	78.4	196	196	245
Maximum Thrust Shaft Load (Newton)	39.2	68	68	98

Motors

The VersaMotion family of servo motors offers high servo performance in a compact package. The motors range from 100 W to 3 kW with continuous torque ratings from 0.3 Nm to 14.3 Nm. All motors have metric mounting configurations and include a shaft key and oil seal. For vertical axes or applications that need to hold position during power loss motors with 24 VDC holding brakes are available. Motors are matched with the VersaMotion amplifiers.

	IC800VMM10L	IC800VMM10M	IC800VMM20L	IC800VMM20M	IC800VMM30M
Product Name	**VersaMotion 1000 Watt**	**VersaMotion 1000 Watt**	**VersaMotion 2000 Watt**	**VersaMotion 2000 Watt**	**VersaMotion 3000 Watt**
Rated Output (kW)	1.0	1.0	2.0	2.0	3.0
Rated Torque (Nm)	3.18	4.77	6.37	9.55	14.32
Maximum Torque (Nm)	9.54	14.32	19.11	28.66	42.96
Rated Speed (RPM)	3000	2000	3000	2000	2000
Maximum Speed (RPM)	5000	3000	5000	3000	3000
Rated Current (Amps)	7.3	5.6	11.3	11.0	16.1
Maximum Current (Amps)	21.9	24.9	33.9	33.0	48.3
Rotor Moment of Inertia ($Kg.m^2 \times 10^{-4}$)	2.65	9.14	4.45	15.88	55
Mechanical Time Constant (msec)	0.74	1.64	0.66	1.05	1.06
Torque Constant - KT (Nm/A)	0.44	0.85	0.53	0.87	0.89
Voltage Constant - KE (mV/rpm)	16.8	31.9	19.2	31.8	32
Armature Resistance (Ohm)	0.20	0.465	0.14	0.174	0.052
Armature Inductance (mH)	2.0	5.99	1.53	2.76	1.38
Electrical Time Constant (msec)	10.26	12.88	10.63	15.86	26.39
Maximum Radial Shaft Load (Newton)	490	490	490	490	1470
Maximum Thrust Shaft Load (Newton)	98	98	98	98	490
Amplifier Model	IC800VMA102	IC800VMA102	IC800VMA202	IC800VMA202	IC800VMA302

VersaMotion Accessories

Amplifier Connectors

IC800VMACONCN1	CN1 I/O Connector
IC800VMACONCN2	CN2 Encoder Connector
IC800VMACONCN3	CN3 Communication Connector
IC800VMACONACP	AC Power Connector (100W to 1kW models only)
IC800VMACONMTRP	Motor Power Connector (100W to 1kW models only)
IC800VMADBR001	External Braking Resistor Connector (100W to 1kW models only)

Motor Connectors

IC800VMMCONP001	Motor Power Connector for 100 Watt to 750 Watt motors without brake
IC800VMMCONP002	Motor Power Connector for 100 Watt to 750 Watt motors with brake
IC800VMMCONP003	Motor Power Connector for 1000 Watt or 2000 Watt motors with or without brake
IC800VMMCONP004	Motor Power Connector for 3000 Watt motors with or without brake
IC800VMMCONE001	Encoder Connector for 100 Watt to 750 Watt motors
IC800VMMCONE002	Encoder Connector for 1000 Watt and larger motors

Motor Power Cables

IC800VMCP030	Power Cable for 100 Watt to 750 Watt servo motor without brake, 3 m (9.8 feet)
IC800VMCP050	Power Cable for 100 Watt to 750 Watt servo motor without brake, 5 m (16.4 feet)
IC800VMCP100	Power Cable for 100 Watt to 750 Watt servo motor without brake, 10 m (32.8 feet)
IC800VMCP200	Power Cable for 100 Watt to 750 Watt servo motor without brake, 20 m (65.7 feet)
IC800VMCP1030	Power Cable for 1000 Watt servo motor without brake, 3 m (9.8 feet)
IC800VMCP1050	Power Cable for 1000 Watt servo motor without brake, 5 m (16.4 feet)
IC800VMCP1100	Power Cable for 1000 Watt servo motor without brake, 10 m (32.8 feet)
IC800VMCP1200	Power Cable for 1000 Watt servo motor without brake, 20 m (65.7 feet)
IC800VMCP2030	Power Cable for 2000 Watt servo motor without brake, 3 m (9.8 feet)
IC800VMCP2050	Power Cable for 2000 Watt servo motor without brake, 5 m (16.4 feet)
IC800VMCP2100	Power Cable for 2000 Watt servo motor without brake, 10 m (32.8 feet)
IC800VMCP2200	Power Cable for 2000 Watt servo motor without brake, 20 m (65.7 feet)
IC800VMCP3030	Power Cable for 3000 Watt servo motor without brake, 3 m (9.8 feet)
IC800VMCP3050	Power Cable for 3000 Watt servo motor without brake, 5 m (16.4 feet)
IC800VMCP3100	Power Cable for 3000 Watt servo motor without brake, 10 m (32.8 feet)
IC800VMCP3200	Power Cable for 3000 Watt servo motor without brake, 20 m (65.7 feet)

Brake and Motor Power Cables

IC800VMCB030	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 3 m (9.8 feet)
IC800VMCB050	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 5 m (16.4 feet)
IC800VMCB100	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 10 m (32.8 feet)
IC800VMCB200	Brake and Motor Power Cable for 200 Watt to 750 Watt servo motor with brake, 20 m (65.7 feet)
IC800VMCB1030	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 3 m (9.8 feet)
IC800VMCB1050	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 5 m (16.4 feet)
IC800VMCB1100	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 10 m (32.8 feet)
IC800VMCB1200	Brake and Motor Power Cable for 1000 Watt servo motor with brake, 20 m (65.7 feet)
IC800VMCB2030	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 3 m (9.8 feet)
IC800VMCB2050	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 5 m (16.4 feet)
IC800VMCB2100	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 10 m (32.8 feet)
IC800VMCB2200	Brake and Motor Power Cable for 2000 Watt servo motor with brake, 20 m (65.7 feet)
IC800VMCB3030	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 3 m (9.8 feet)
IC800VMCB3050	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 5 m (16.4 feet)
IC800VMCB3100	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 10 m (32.8 feet)
IC800VMCB3200	Brake and Motor Power Cable for 3000 Watt servo motor with brake, 20 m (65.7 feet)

Encoder Cables

IC800VMCE030	Encoder Cable for 100 to 750 Watt, 3 m (9.8 feet)
IC800VMCE050	Encoder Cable for 100 to 750 Watt, 5 m (16.4 feet)
IC800VMCE100	Encoder Cable for 100 to 750 Watt, 10 m (32.8 feet)
IC800VMCE200	Encoder Cable for 100 to 750 Watt, 20 m (65.7 feet)
IC800VMCE1030	Encoder Cable for 1000 Watt and greater, 3 m (9.8 feet)
IC800VMCE1050	Encoder Cable for 1000 watt and greater, 5 m (16.4 feet)
IC800VMCE1100	Encoder Cable for 1000 watt and greater, 10 m (32.8 feet)
IC800VMCE1200	Encoder Cable for 1000 watt and greater, 20 m (65.7 feet)

I/O Terminal Block

IC800VMTBC005	I/O Terminal Block Breakout Board and 0.5 m (1.6 feet) Cable

External Braking Resistors

IC800VMBR040	40 Ohm, 400 Watt External Braking (Regeneration) Resistor
IC800VMBR020	20 Ohm, 1000 Watt External Braking (Regeneration) Resistor

Communications and I/O Interface Cables

IC800VMCS030	Communications Cable from servo amplifier to PC, 3 m (9.8 feet)
IC800VMCI010	Flying lead I/O interface cable, 1 meter
IC800VMCI030	Flying lead I/O interface cable, 3 meter

Software Configuration Tool

IC646MPM101	Proficy Logic Developer - PLC Nano/Micro and VersaMotion, Programming Cable (No Upgrades included)
BC646MPM101	Proficy Logic Developer - PLC Nano/Micro and VersaMotion, Programming Cable (Includes 15 months of upgrades)

Examples of Typical Application using a VersaMax Micro

Application: 1000 Watt Low Inertia Motor with Brake and micro controller (14) 24VDC inputs and (10) Relay outputs (AC power supply). In addition the application needs Ethernet LAN to 6 inch color STN touch display.

Qty	Part Number	Description
		Controller, I/O and Display
1	IC200UDR120	VersaMax Micro 20 point PLC, (12) 24VDC In, (8) Relay Out, 120/240VAC Power Supply
1	IC200UEC208	VersaMax 8 point expansion unit, (4) 24VDC inputs, (4) Relay Outputs and 24VDC Power Supply (The VersaMax Micro 20 controller 24VDC user power supply can support the expansion module)
1	IC200UMM102	VersaMax Micro Motion 2 Axis Servo Module, 120/240VAC Supply
1	IC200UEM001	VersaMax Micro 10/100Mbits Ethernet Module
1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch
		Servo Amplifier and Motor
1	IC800VMM10LBKSE25	VersaMotion 1000 Watt Low Inertia Servo Motor with brake. Motor has keyway and oil seal
1	IC800VMA102	Servo Amplifier, 1000 Watts, 220VAC
1	IC800VMCB1030	Brake and Power Cable for 1000 Watt Servo Motor with brake, 3 m (9.8 feet)
1	IC800VMCE1030	Encoder Cable for 1000 Watt and greater, 3 m (9.8 feet)
1	IC800VMTBC005	I/O terminal block and cable (0.5 meter)
1	IC800VMCS030	Communications cable from servo driver to PC, 3 m (9.8 feet)
		Programming Software for Control, Display and Motion
1	BC646MBL001	Machine Edition Lite Development Suite with Proficy GlobalCare Complete. Includes VersaMotion configuration tool, View Development for QuickPanel and LD-PLC Nano/Micro. Proficy GlobalCare with 15 months of free upgrades which is renewable on an annual basis.